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April 15, 2017

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Remediation and Reuse Branch
Land and Chemicals Division
United States Environmental Protection Agency, Region 5
77 West Jackson Boulevard, LU-9J
Chicago, IL 60604

Attention: Ms. Jean Greensley
Corrective Action Section

Subject: Progress Report, Fourth Quarter 2016 and First Quarter 2017
MAHLE Behr Properties Management, LLC
250 Northwoods Blvd.
Vandalia, Ohio
US EPA ID #OH0 000 048 454

Dear Ms. Greensley:

This submittal constitutes the progress report for work undertaken during the fourth quarter of 2016 and the first quarter of 2017, related to the above-referenced Facility. As you are aware, MAHLE Behr Properties Management LLC ("MAHLE") continues to operate a migration control system and manage an existing remediation project at this location. Although manufacturing operations at this facility ceased on December 21, 2016, MAHLE continues to implement remediation activities at the site.

Work Performed Fourth Quarter 2016 (October 1, 2016 – December 31, 2016) and First Quarter 2017 (January 1, 2017 – March 31, 2017)

- Groundwater samples from twenty-five (25) monitoring wells, consisting of one (1) Top-of-Rock, one (1) Middle Brassfield, five (5) Sugar Rock, and eighteen (18) Overburden locations, were collected and analyzed during the Fourth Quarter 2016 as part of the routine sampling program (Figure 1, Tables 1 and 2).

- Surface water samples from two (2) locations along the unnamed tributary of North Creek were collected and analyzed during the Fourth Quarter 2016 and First Quarter 2017, and seven (7) Sugar Rock spring samples were collected and analyzed during the Fourth Quarter 2016 (Figures 2 and 3, Table 3). Two of the scheduled spring sampling locations were dry.

- Conducted six (6) rounds of Deep Bedrock (Sugar Rock) and Intermediate Bedrock water level measurements, two (2) rounds of Top-of-Rock water level measurements, and two (2) rounds of Overburden water level measurements (Figures 4-17; Attachment A).

- Collected and analyzed monthly samples from groundwater migration control system monitoring points, including Deep Bedrock and Overburden (Water Table/First Sand and Second Sand) influent streams prior to treatment, and treated groundwater effluent for compliance with NPDES permit (Table 4).

- Sampled a private potable water well at 10440 Cassel Road on October 14, 2016, as part of ongoing semi-annual monitoring at this location, and transmitted results to property owner. Results show no detections of constituents of concern.

- Continued to operate the groundwater migration control system. Fourth Quarter 2016 and First Quarter 2017 monthly discharge reports, system activity logs, site inspection checklists, and system shutdown reports are included in Attachments C-F, respectively.

- Replaced bedrock recovery well pump and motor on November 3, 2016.

- Installed new AT&T phone line to migration control system on November 17, 2016, restoring full remote access, including outgoing communication of alarms and operating status, and remote monitoring and control. A section of underground phone line was replaced by AT&T on January 27, 2017, after failure due to moisture in the line.

- Submitted application for NPDES Permit renewal to Ohio EPA on December 1, 2016, as required, 180 days prior to May 31, 2017 expiration of the existing permit. Ohio EPA visited the site on March 28, 2017, to review the draft permit with MAHLE and to conduct a site inspection.

- Performed an acid chemical wash of the air stripper and associated treatment system components, and stripping tower tray cleaning through disassembly and power wash on March 14-16, 2017. Due to initial effluent high pressure shutdowns during system restart after cleaning, system operation was not restored until March 20. Upon observation on March 24 of a minor leak from the recently re-assembled stripping tower, the system was immediately shut down for repair. After repair, the system was restarted on March 28.

- Efforts to secure an access agreement with Spears property management have not been successful to date. Access for monitoring on this property is provided through the Environmental Covenant recorded March 11, 2008, and access continues to be granted verbally by the property owner for each routine monitoring event. In the 2016 Three-year Assessment Report, based on the last three years of monitoring data in upgradient monitoring well MW-730 showing that VOC concentrations have returned to near detection levels, Haley & Aldrich (H&A) recommended that that the new monitoring well on Spears property (referenced as Well A in the 2013 Three-year Assessment) not be installed. Results of December 2016 sampling of upgradient overburden monitoring well MW-730 continue to show only low level detections of constituents of concern.

- Data evaluation is ongoing regarding Top-of-Rock water level investigation conducted as part of an evaluation of changes in Top-of-Rock groundwater flow patterns, and investigation of intermittent elevated TCE concentrations in the unnamed tributary to North Creek.

Data Collected

- Groundwater samples were collected from twenty-five (25) monitoring wells during fourth quarter 2016 and analyzed for VOCs. The analytical results from groundwater sampling during the fourth quarter 2016 are included in Table 2. The fourth quarter 2016 TCE concentrations in Sugar Rock groundwater are shown on Figure 18.

- Analytical results for surface water samples collected at the unnamed tributary to North Creek and Sugar Rock outcrop springs are included in Table 3. Surface water TCE results are illustrated on Figure 2; Sugar Rock spring TCE and cis-1,2-DCE results are shown on Figure 3.

- Analytical results for monthly migration control system samples are presented in Table 4.

- Investigation results related to observed changes in Top-of Rock groundwater flow patterns will be summarized in a separate report.

- Analytical results from sampling of surface water, storm sewer outfalls, and storm sewer manholes will be summarized in a separate report.

Performance Evaluation and Problems Encountered

- The bedrock groundwater migration control system was operational for approximately 82% of the fourth quarter 2016 and first quarter 2017. System downtime was related primarily to maintenance issues including: failure and replacement of the bedrock recovery well pump, high level in equalization tank due to increased influent flow from precipitation event, testing of system components, migration control system acid wash, disassembly and cleaning of the air stripping tower trays, high pressure in the effluent discharge after system cleaning, and a minor leak at a new gasket in the re-assembled air stripping tower. The primary downtime was related to two system shut-downs due to a bedrock well pump failure, evaluation, and replacement during October and November (21 days) and an acid wash and tray cleaning during March (7 days). Excluding those two events, the system was in operation approximately 97% of the reporting period.

- DNAPL recovery wells were inspected for the presence of DNAPL in both the fourth quarter 2016 and first quarter 2017. Based on bailer checks, no wells contained visible DNAPL; accordingly, no DNAPL recovery was performed during these quarters.

- The bedrock recovery well pump, which had been recently installed on September 30, 2016, failed on October 13, 2016, due to a defective motor. A new bedrock pump and motor were installed on November 3, 2016, restoring normal operations. A new variable frequency drive (VFD) controlling the bedrock recovery well pump was also replaced on October 25, 2017, due to suspect voltage identified during diagnosis of the bedrock well pump failure.

- Remote communication with the groundwater migration control system PLC had been lost on August 26, 2016, due to failure of the plant phone system. Outgoing communication was restored on September 7, 2016, providing alarm notification by phone and fax and daily fax notification of operating status. Full two-way remote communication was restored on November 17, 2016, through installation of a new AT&T phone line. Remote communication was again lost on January 24, 2017, due to moisture in an underground section of the phone line near the migration control building. This section of phone line was replaced by AT&T on January 27, 2017, restoring remote communication.

- A new planned overburden well, identified in the sampling schedule as Well A, has not yet been installed. Installation of this well, planned on Spears property north of Northwoods Blvd., had been delayed pending finalization of an access agreement with the property owner. In the 2016 Three-year Assessment Report, based on the last three years of monitoring data in upgradient monitoring well MW-730 trending to near non-detect levels for VOCs, H&A had recommended that the new well on Spears property not be installed.

- Since January, 2014, a hydraulic low related to downward flow of groundwater from the Top-of-Rock interval to the Deep Bedrock interval (where it is captured by the Groundwater Migration Control System) has shifted. Prior to this date, the center of this feature was located near MW-424S, which consistently had exhibited the lowest water level compared to surrounding Top-of-Rock wells. Since this date, MW-423S has exhibited the lowest water level in this area. Shifting patterns of groundwater flow in the Top-of-Rock interval are being evaluated using data collected from pressure transducers, which were deployed in five Top-of-Rock wells between November 2015 and August 2016. Also, a surface geophysical survey was conducted on May 17-19, 2016, in selected areas along the north property boundary, in an effort to identify the nature and location of the inferred vertical conduit, assumed to be one or more improperly abandoned historic water supply wells. Two prominent magnetic anomalies were identified in the vicinity of the groundwater depression, which appear to coincide with former structures shown on historical aerial photographs. The outcome of the evaluation of the Top-of-Rock hydraulic low will be presented to the EPA in a separate document at a future date.

- Rising VOC concentrations have been observed at Water Table monitoring well MW-806. While historical VOC concentrations in this well have been at or near detectable limits, concentrations in groundwater samples collected between 2014 and 2016 have exhibited pronounced rising trends for several compounds. Concentrations of cis-1,2-DCE have risen from below detectable limits to 16,000 ug/l in the most recent samples collected in February, 2016, and November, 2016. Also, concentrations of 1,1-DCA and vinyl chloride have risen from below detectable limits to 290 ug/l and 36 ug/l, respectively. The rising concentration trends at MW-806 suggest locally changing site conditions. Recently installed downgradient monitoring wells MW-814 and MW-815, which are screened across the Water Table and First Sand intervals, have shown no significant detections of VOCs. Two additional monitoring wells were proposed in the 2016 Three-year Assessment Report (one between MW-814 and MW-815 and one between MW-814 and MW-810) to improve downgradient spacing of the monitoring well network and enhance monitoring of potential plume movement.

- Intermittent elevated VOC concentrations have been observed in surface water samples collected from the unnamed tributary to North Creek. The series of concentration peaks, which typically occur during wetter seasons, have suggested a generally increasing trend in VOC concentrations. An investigation to identify possible sources of VOCs in surface water is currently in progress.

Project Schedule

- An updated project schedule is included in Attachment G.

Feel free to contact me at (248) 743-3758 if you have any questions or require additional information.

Sincerely,

James Hunt
Project Manager for MAHLE Behr Properties LLC
MAHLE Industries, Incorporated
jim.hunt@us.mahle.com

Enclosures:

Tables

1 Schedule of Groundwater Sampling/Water Level Measurements
2 Fourth Quarter 2016 Analytical Results, Overburden and Bedrock Monitoring Wells
3 Fourth Quarter 2016 and First Quarter 2017 Analytical Results, Surface Water and Sugar Rock Spring Samples
4 Fourth Quarter 2016 and First Quarter 2017 Performance Monitoring Analytical Data, Groundwater Migration Control System

Figures

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2 Fourth Quarter 2016 & First Quarter 2017 Surface Water Sampling Locations and TCE Results
3 Outcrop Survey, December 2016, Spring Sample Locations, TCE and DCE Results
4 Potentiometric Surface Contours, Shallow Water Table Zone, 21 November 2016
5 Potentiometric Surface Contours, Shallow Water Table Zone, 24 March 2017
6 Potentiometric Surface Contours, First Sand Zone, 21 November 2016
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11 Potentiometric Surface Contours, Top of Bedrock Zone, 31 January 2017
12 Deep Bedrock Potentiometric Surface Contours, 13 October 2016
13 Deep Bedrock Potentiometric Surface Contours, 22 November 2016
14 Deep Bedrock Potentiometric Surface Contours, 20 December 2016
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17 Deep Bedrock Potentiometric Surface Contours, 29 March 2017
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Attachments

A Water Level Measurements
B Data Usability Summary Reports
C Groundwater Migration Control System Monthly Discharge Reports
D Groundwater Migration Control System Activity Log
E Groundwater Migration Control System Inspection Checklists
F Bedrock Groundwater Migration Control System Shutdown Reports
G Project Schedule

TABLES

TABLE 1
2016-2017 GROUNDWATER SAMPLING / WATER LEVEL MEASUREMENTS
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Sampling

Location	Unit	Frequency	4Q-2016	1Q-2017	2Q-2017	3Q-2017
CSX-18D	SR	15 months			✓	
MW-402D	SR	15 months			✓	
MW-411D	SR	15 months			✓	
MW-412D	SR	15 months			✓	
MW-413D	SR	9 months	✓			✓
MW-416D	SR	9 months	✓			✓
MW-417D	SR	9 months	✓			✓
MW-418D	SR	9 months	✓			✓
MW-420M	MB	9 months	✓			✓
MW-420D	SR	9 months	✓			✓
MW-424D	SR	15 months			✓	
MW-434D	SR	15 months			✓	
MW-435D	SR	15 months			✓	
MW-444D	SR	15 months			✓	
MW-453D	SR	15 months			✓	
MW-301S	TOR	15 months			✓	
MW-415S	TOR	15 months			✓	
MW-425S	TOR	9 months	✓			✓
MW-426S	TOR	15 months			✓	
MW-445S	TOR	15 months			✓	
MW-446S	TOR	15 months			✓	
MW-784	WT	15 months			✓	
MW-806	WT	9 months	✓			✓
MW-810	WT	9 months	✓			✓
MW-607	WT/S1	9 months	✓			✓
MW-729	WT/S1	15 months			✓	
MW-734	WT/S1	15 months			✓	
MW-775	WT/S1	9 months	✓			✓
MW-793	WT/S1	15 months			✓	
MW-796	WT/S1	15 months			✓	
MW-776	WT/S1	9 months	✓			✓
VPW-103	WT/S1	15 months			✓	
MW-730	S1	9 months	✓			✓
MW-732	S1	9 months	✓			✓
MW-809	S1/S2	15 months			✓	
MW-787	WT	15 months			✓	
MW-715	S1	15 months			✓	
Well A*	S1	9 months	✓			✓
MW-814	WT/S1	9 months	✓			✓
MW-815	WT/S1	9 months	✓			✓
MW-515	S2	15 months			✓	
MW-605	S2	9 months	✓			✓
MW-717	S2	9 months	✓			✓
MW-725	S2	9 months	✓			✓
MW-731	S2	9 months	✓			✓
MW-740	S2	9 months	✓			✓
MW-741	S2	9 months	✓			✓
MW-742	S2	15 months			✓	
MW-743	S2	9 months	✓			✓
MW-746	S2	15 months			✓	
MW-759	S2	9 months	✓			✓
MW-800	S2	9 months	✓			✓
MW-807	S2	15 months			✓	
SW-1	North Creek	Quarterly	✓	✓	✓	✓
SW-4	North Creek	Quarterly	✓	✓	✓	✓
B005	SR Spring	9 months	✓			✓
B006	SR Spring	9 months	✓			✓
C001	SR Spring	9 months	✓			✓
D001	SR Spring	9 months	✓			✓
E001	SR Spring	9 months	✓			✓
E002	SR Spring	9 months	✓			✓
F001	SR Spring	9 months	✓			✓
G004	SR Spring	9 months	✓			✓
G006	SR Spring	9 months	✓			✓

Water Level Measurements

Unit	Frequency
All SR / MB wells	Monthly
All TOR wells	Quarterly
All Overburden wells	Quarterly

Unit Key

Unit	Description
WT	Water Table
S1	First Sand
S2	Second Sand
TOR	Top Of Rock
MB	Middle Brassfield
SR	Sugar Rock

Notes:

1. * Denotes wells to be installed and their sampling schedule. Actual well nomenclature will be made after installation.

TABLE 2
FOURTH QUARTER 2016 ANALYTICAL RESULTS
OVERBURDEN AND BEDROCK MONITORING WELLS
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Location	MW-413D	MW-416D	MW-417D	MW-418D	MW-420D	MW-420D	MW-420M	MW-425S	MW-605
Sample Date	12/01/2016	12/02/2016	12/02/2016	12/01/2016	12/02/2016	12/02/2016	12/02/2016	12/01/2016	11/28/2016
Unit	SR	SR	SR	SR	SR	SR	MB	TOR	S2
Sample Type	N	N	N	N	N	FD	N	N	N
Volatile Organic Compounds (ug/L)									
1,1-Dichloroethane	< 1	< 1	< 1	< 5	**0.4 J**	**0.39 J**	< 25	**12 J**	< 1
Benzene	< 1	< 1	< 1	< 5	**1.1 J**	**1.2 J**	< 25	< 20	< 1
Chloroform (Trichloromethane)	< 1	< 1	< 1	< 5	< 1.4	< 1.4	< 25	< 20	< 1
cis-1,2-Dichloroethene	**3.4**	**16**	**23**	**3.6 J**	**39**	**41**	**510**	**300**	< 1
Ethylbenzene	< 1	< 1	< 1	< 5	< 1.4	< 1.4	< 25	< 20	< 1
trans-1,2-Dichloroethene	< 1	< 1	< 1	< 5	**0.43 J**	< 1.4	< 25	< 20	< 1
Trichloroethene	**1**	< 1	< 1	< 5	**1.9**	**1.9**	**340**	**480**	**0.77 J**
Trichlorofluoromethane (CFC-11)	< 1	< 1	< 1	< 5	< 1.4	< 1.4	< 25	< 20	< 1
Vinyl chloride	< 1	**16**	**21**	**78**	**9.7**	**10**	**19 J**	**12 J**	< 1
Xylene (total)	< 2	< 2	< 2	< 10	< 2.9	< 2.9	< 50	< 40	< 2

Notes and Abbreviations:

1. Summary includes VOC compounds detected in one or more samples.
2. Analysis method SW8260.
3. See Figure 1 for sample locations.
4. <: Result is below the indicated reporting limit.
   J: Estimated result.
   R: Rejected during validation
5. Sample type codes: N - Normal, FD - Field Duplicate

TABLE 2
FOURTH QUARTER 2016 ANALYTICAL RESULTS
OVERBURDEN AND BEDROCK MONITORING WELLS
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Location	MW-607	MW-717	MW-725	MW-730	MW-730	MW-731	MW-731	MW-732	MW-740
Sample Date	11/28/2016	11/29/2016	11/29/2016	12/02/2016	12/02/2016	11/29/2016	11/29/2016	11/28/2016	11/30/2016
Unit	WT/S1	S2	S2	S1	S1	S2	S2	S1	S2
Sample Type	N	N	N	N	FD	N	FD	N	N
Volatile Organic Compounds (ug/L)									
1,1-Dichloroethane	**0.36 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform (Trichloromethane)	**2.1**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	**1.5**	< 1	< 1	**17**	**18**	< 1	< 1	**0.33 J**	< 1
Ethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
trans-1,2-Dichloroethene	< 1	< 1	< 1	**0.8 J**	**0.85 J**	< 1	< 1	< 1	< 1
Trichloroethene	**14**	< 1	< 1	**5.1**	**5**	< 1	< 1	< 1	< 1
Trichlorofluoromethane (CFC-11)	**0.54 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	< 1	**3.2**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylene (total)	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2

Notes and Abbreviations:

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TABLE 2
FOURTH QUARTER 2016 ANALYTICAL RESULTS
OVERBURDEN AND BEDROCK MONITORING WELLS
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Location	MW-741	MW-743	MW-759	MW-775	MW-776	MW-800	MW-800	MW-806	MW-810
Sample Date	12/01/2016	11/30/2016	12/01/2016	12/01/2016	11/30/2016	12/01/2016	12/01/2016	11/30/2016	11/29/2016
Unit	S2	S2	S2	WT	WT/S1	S2	S2	WT	WT
Sample Type	N	N	N	N	N	N	FD	N	N
Volatile Organic Compounds (ug/L)									
1,1-Dichloroethane	< 1	< 1	< 2	< 1	< 1	< 1	< 1	**220 J**	< 1
Benzene	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 710	< 1
Chloroform (Trichloromethane)	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 710	< 1
cis-1,2-Dichloroethene	< 1	< 1	**42**	< 1	< 1	< 1	< 1	**16000**	< 1
Ethylbenzene	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 710	< 1
trans-1,2-Dichloroethene	< 1	< 1	**2.3**	< 1	< 1	< 1	< 1	**360 J**	< 1
Trichloroethene	< 1	< 1	**3.3**	< 1	< 1	< 1	< 1	< 710	< 1
Trichlorofluoromethane (CFC-11)	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 710	< 1
Vinyl chloride	< 1	< 1	**52**	< 1	< 1	< 1	< 1	< 710	< 1
Xylene (total)	< 2	< 2	< 4	< 2	< 2	< 2	< 2	< 1400	< 2

Notes and Abbreviations:
1. Summary includes VOC compounds detected in one or more samples.
2. Analysis method SW8260.
3. See Figure 1 for sample locations.
4. <: Result is below the indicated reporting limit.
   J: Estimated result.
   R: Rejected during validation
5. Sample type codes: N - Normal, FD - Field Duplicate

TABLE 2
FOURTH QUARTER 2016 ANALYTICAL RESULTS
OVERBURDEN AND BEDROCK MONITORING WELLS
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Location	MW-814	MW-815
Sample Date	11/30/2016	11/30/2016
Unit	WT/S1	WT/S1
Sample Type	N	N
Volatile Organic Compounds (ug/L)		
1,1-Dichloroethane	< 1	< 1
Benzene	< 1	< 1
Chloroform (Trichloromethane)	< 1	< 1
cis-1,2-Dichloroethene	< 1	< 1
Ethylbenzene	< 1	**0.28 J**
trans-1,2-Dichloroethene	< 1	< 1
Trichloroethene	< 1	< 1
Trichlorofluoromethane (CFC-11)	< 1	< 1
Vinyl chloride	< 1	< 1
Xylene (total)	< 2	2 R

Notes and Abbreviations:
1. Summary includes VOC compounds detected in one or more samples.
2. Analysis method SW8260.
3. See Figure 1 for sample locations.
4. <: Result is below the indicated reporting limit.
   J: Estimated result.
   R: Rejected during validation
5. Sample type codes: N - Normal, FD - Field Duplicate

TABLE 3
FOURTH QUARTER 2016 AND FIRST QUARTER 2017 ANALYTICAL RESULTS
SURFACE WATER AND SUGAR ROCK SPRING SAMPLES
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Location Group	North Creek				Spings						
Location	SW-1	SW-1	SW-4	SW-4	B005	B006	C001	D001	E001	F001	G004
Sample Date	12/29/2016	02/23/2017	12/29/2016	02/23/2017	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016
Sample Type	N	N	N	N	N	N	N	N	N	N	N
Volatile Organic Compounds (ug/L)											
1,1,1-Trichloroethane	**1.1**	< 1	**13**	**3.9**	< 1	< 1	< 1	< 5	< 5	< 1	< 1
1,1-Dichloroethane	< 1	< 1	**1.9 J**	**0.99 J**	< 1	< 1	< 1	< 5	< 5	< 1	< 1
Chloroform (Trichloromethane)	< 1	< 1	< 6.7	< 2	< 1	< 1	< 1	< 5	< 5	**7.1**	< 1
cis-1,2-Dichloroethene	**6.8**	**0.67 J**	**80**	**27**	< 1	< 1	**10**	**5.8**	**16**	< 1	**1**
Tetrachloroethene	< 1	< 1	< 6.7	< 2	< 1	< 1	< 1	< 5	< 5	**0.3 J**	< 1
trans-1,2-Dichloroethene	< 1	< 1	< 6.7	< 2	< 1	< 1	**0.9 J**	**2.6 J**	**1.8 J**	< 1	< 1
Trichloroethene	**12**	**0.92 J**	**140**	**53**	**1.1**	**1.1**	**38**	**110**	**88**	< 1	**2**
Vinyl chloride	< 1	< 1	**3.9 J**	**1.8 J**	< 1	< 1	< 1	< 5	< 5	< 1	< 1

Notes:
1. Summary includes compounds detected in one or more samples
2. Analysis methods SW8260.
3. See figures 2 and 3 for sample locations.
4. <: Result is below the indicated reporting limit.
   J: Estimated result.
5. Sample type codes: N - Normal

TABLE 4
FOURTH QUARTER 2016 AND FIRST QUARTER 2017
PERFORMANCE MONITORING ANALYTICAL DATA
GROUNDWATER MIGRATION CONTROL SYSTEM
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

	Sample Name	BRIN-101116	OBIN-101116	SSIN-101116	PREAS-101116	EFF-101116
	Sample Date	10/11/2016	10/11/2016	10/11/2016	10/11/2016	10/11/2016
	Location	Sugar Rock	Overburden	Second Sand		
	Sample Type	Recovery Well	Recovery Well	Recovery Well	Pre Air Stripper	Effluent
Volatile Organic Compounds (ug/L)						
1,1,1-Trichloroethane		< 50	**459**	< 200	< 100	< 1
1,1-Dichloroethane		< 50	< 400	**209**	< 100	< 1
cis-1,2-Dichloroethene		**841**	**1840**	**2820**	**1040**	< 1
Trichloroethene		**2230**	**14500**	**11300**	**3220**	**1.27**
Lab Method: SM4500 H+B						
pH (lab) - S.U. (standard units)		-	-	-	**7.2 HF**	**8.5 HF**

Notes:
1. < #: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:
   HF: Field parameter with a holding time of 15 minutes.

TABLE 4
FOURTH QUARTER 2016 AND FIRST QUARTER 2017
PERFORMANCE MONITORING ANALYTICAL DATA
GROUNDWATER MIGRATION CONTROL SYSTEM
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

	Sample Name	BRIN-110916	OBIN-110916	SSIN-110916	PREAS-110916	EFF-110916
	Sample Date	11/09/2016	11/09/2016	11/09/2016	11/09/2016	11/09/2016
	Location	Sugar Rock	Overburden	Second Sand		
	Sample Type	Recovery Well	Recovery Well	Recovery Well	Pre Air Stripper	Effluent
Volatile Organic Compounds (ug/L)						
1,1,1-Trichloroethane		< 50	**591**	< 200	< 100	< 1
1,1-Dichloroethane		< 50	< 200	**240**	< 100	< 1
cis-1,2-Dichloroethene		**887**	**1830**	**2800**	**1020**	< 1
Trichloroethene		**2590**	**16800**	**11700**	**3620**	**1.99**
Lab Method: SM4500 H+B						
pH (lab) - S.U. (standard units)		-	-	-	**7.1 HF**	**8.4 HF**

Notes:
1. < #: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:
   HF: Field parameter with a holding time of 15 minutes.

TABLE 4
FOURTH QUARTER 2016 AND FIRST QUARTER 2017
PERFORMANCE MONITORING ANALYTICAL DATA
GROUNDWATER MIGRATION CONTROL SYSTEM
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

	Sample Name	BRIN-121516	OBIN-121516	SSIN-121516	PREAS-121516	EFF-121516
	Sample Date	12/15/2016	12/15/2016	12/15/2016	12/15/2016	12/15/2016
	Location	Sugar Rock	Overburden	Second Sand		
	Sample Type	Recovery Well	Recovery Well	Recovery Well	Pre Air Stripper	Effluent
Volatile Organic Compounds (ug/L)						
1,1,1-Trichloroethane		< 50	**353**	< 200	< 100	< 1
1,1-Dichloroethane		< 50	**61**	**211**	< 100	< 1
cis-1,2-Dichloroethene		**734**	**1290**	**2600**	**758**	< 1
Trichloroethene		**2400**	**13100**	**11300**	**2900**	< 1
Lab Method: SM4500 H+B						
pH (lab) - S.U. (standard units)		-	-	-	**7.3 HF**	**8.5 HF**

Notes:
1. < #: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:
   HF: Field parameter with a holding time of 15 minutes.

TABLE 4
FOURTH QUARTER 2016 AND FIRST QUARTER 2017
PERFORMANCE MONITORING ANALYTICAL DATA
GROUNDWATER MIGRATION CONTROL SYSTEM
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

	Sample Name	BRIN-010917	OBIN-010917	SSIN-010917	PREAS-010917	EFF-010917
	Sample Date	01/09/2017	01/09/2017	01/09/2017	01/09/2017	01/09/2017
	Location	Sugar Rock	Overburden	Second Sand		
	Sample Type	Recovery Well	Recovery Well	Recovery Well	Pre Air Stripper	Effluent
Volatile Organic Compounds (ug/L)						
1,1,1-Trichloroethane		< 50	**676**	< 400	< 100	< 1
1,1-Dichloroethane		< 50	< 500	< 400	< 100	< 1
cis-1,2-Dichloroethene		**774**	**1890**	**2860**	**913**	< 1
Trichloroethene		**2600**	**21400**	**12500**	**4020**	< 1
Lab Method: SM4500 H+B						
pH (lab) - S.U. (standard units)		-	-	-	**7.2 HF**	**8.4 HF**

Notes:
1. < #: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:
   HF: Field parameter with a holding time of 15 minutes.

TABLE 4
FOURTH QUARTER 2016 AND FIRST QUARTER 2017
PERFORMANCE MONITORING ANALYTICAL DATA
GROUNDWATER MIGRATION CONTROL SYSTEM
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

	Sample Name	BRIN-020817	OBIN-020817	SSIN-020817	PREAS-020817	EFF-020817
	Sample Date	02/08/2017	02/08/2017	02/08/2017	02/08/2017	02/08/2017
	Location	Sugar Rock	Overburden	Second Sand		
	Sample Type	Recovery Well	Recovery Well	Recovery Well	Pre Air Stripper	Effluent
Volatile Organic Compounds (ug/L)						
1,1,1-Trichloroethane		< 50	**438**	< 200	< 100	< 1
1,1-Dichloroethane		< 50	< 400	< 200	< 100	< 1
cis-1,2-Dichloroethene		**620**	**1270**	**2210**	**756**	< 1
Trichloroethene		**2110**	**16000**	**10800**	**3830**	**2.44**
Lab Method: SM4500 H+B						
pH (lab) - S.U. (standard units)		-	-	-	**8.6 HF**	**7.4 HF**

Notes:
1. < #: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:
   HF: Field parameter with a holding time of 15 minutes.

TABLE 4
FOURTH QUARTER 2016 AND FIRST QUARTER 2017
PERFORMANCE MONITORING ANALYTICAL DATA
GROUNDWATER MIGRATION CONTROL SYSTEM
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

	Sample Name	BRIN-032217	OBIN-032217	SSIN-032217	PREAS-032217	EFF-032217
	Sample Date	03/22/2017	03/22/2017	03/22/2017	03/22/2017	03/22/2017
	Location	Sugar Rock	Overburden	Second Sand		
	Sample Type	Recovery Well	Recovery Well	Recovery Well	Pre Air Stripper	Effluent
Volatile Organic Compounds (ug/L)						
1,1,1-Trichloroethane		< 50	< 400	< 200	< 100	< 1
1,1-Dichloroethane		< 50	< 400	< 200	< 100	< 1
cis-1,2-Dichloroethene		**977**	**1000**	**1570**	**942**	< 1
Trichloroethene		**2800**	**10600**	**9630**	**4220**	**2.01**
Lab Method: SM4500 H+B						
pH (lab) - S.U. (standard units)		-	-	-	**7.2 HF**	**8.4 HF**

Notes:
1. < #: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:
   HF: Field parameter with a holding time of 15 minutes.

FIGURES

LEGEND

- MONITORING WELL SAMPLED
- ROAD
- APPROXIMATE FACILITY BOUNDARY
- BUILDING

NOTES

N

0 1,000 2,000

SCALE IN FEET

HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

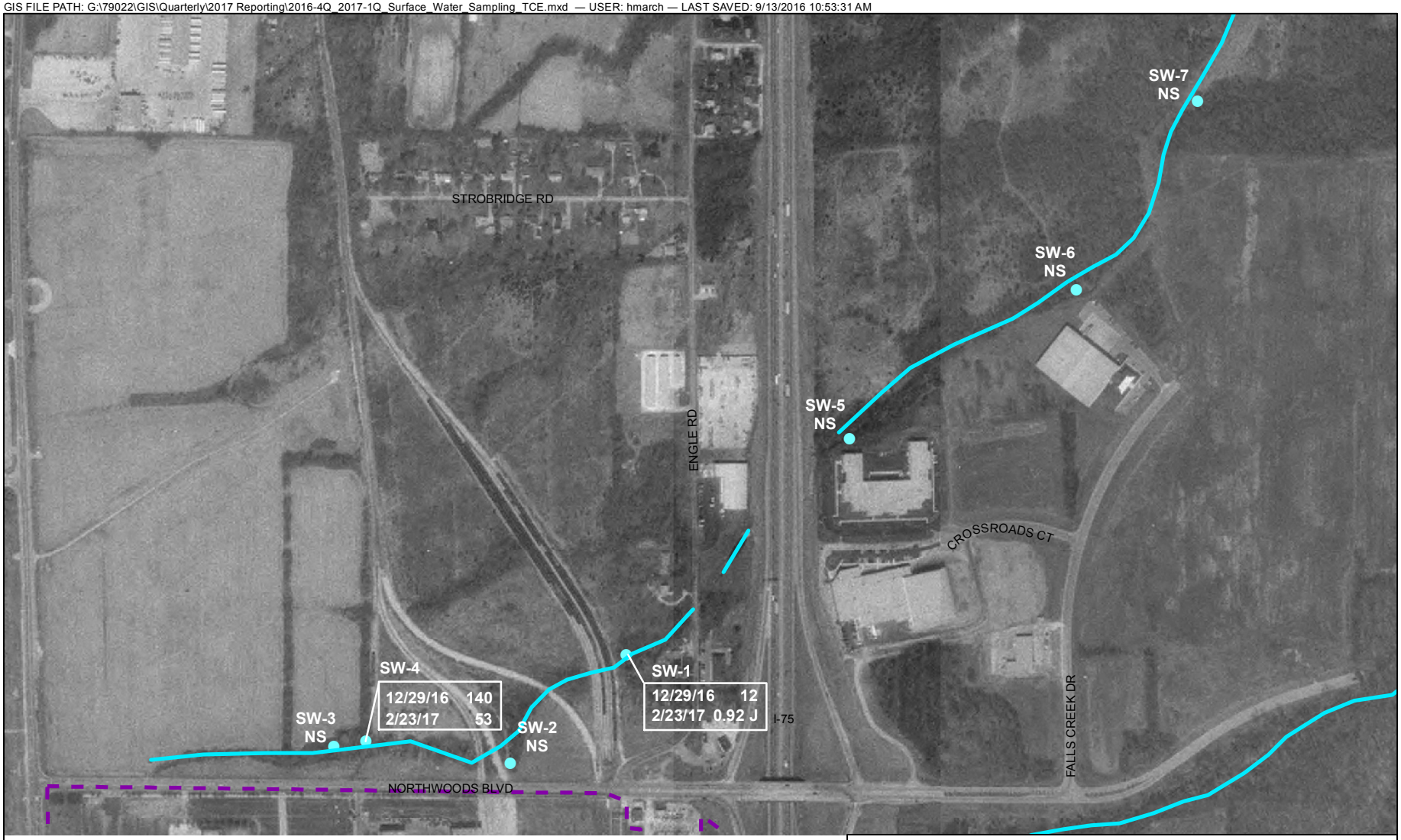
FOURTH QUARTER 2016 WELLS SAMPLED

MARCH 2017

FIGURE 1

GIS FILE PATH: G:\79022\GIS\Quarterly\2017 Reporting\2016-4Q_Wells_Sampled.mxd — USER: hmarch — LAST SAVED: 3/16/2016 6:41:00 PM

GIS FILE PATH: G:\79022\GIS\Quarterly\2017 Reporting\2016-4Q_2017-1Q_Surface_Water_Sampling_TCE.mxd — USER: hmarch — LAST SAVED: 9/13/2016 10:53:31 AM



LEGEND

- APPROXIMATE FACILITY BOUNDARY
- APPROXIMATE LOCATION OF THE UNNAMED TRIBUTARY OF NORTH CREEK
- SW-1 25 — APPROXIMATE SAMPLE LOCATION WITH TCE RESULT IN ug/l
- NS — NOT SAMPLED

N

0 300 600

SCALE IN FEET

HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

FOURTH QUARTER 2016 & FIRST QUARTER 2017 SURFACE WATER SAMPLING LOCATIONS AND TCE RESULTS

SCALE: AS SHOWN
APRIL 2017

FIGURE 2

BO01 SPRING
NS

BO02 SPRING
NS

BO03 SPRING
NS

BO04 SPRING
NS

BO06 SPRING
TCE 1.1
cis-DCE < 1

BO05 SPRING
TCE 1.1
cis-DCE < 1

CO01 SPRING
TCE 38
cis-DCE 10

DO01 SPRING
TCE 110
cis-DCE 5.8

EO01 SPRING
TCE 88
cis-DCE 16

EO02 SPRING
NS

EO04 SPRING
NS

FO01 SPRING
TCE < 1
cis-DCE < 1

GO04 SPRING
TCE 2
cis-DCE 1

GO05 SPRING
NS

GO03 SPRING
NS

GO06 SPRING
NS

GO02 SPRING
NS

GO01 SPRING
NS

SEC. 2
T3 R6 E

SEC. 11
T3 R6 E

SEC. 14
T3 R6 E

CASSEL RD.

D&M R.R. AND C&T R.R.

MIAMI CO
BETHEL TWP

GREAT MIAMI RIVER

BETHEL TWP
MIAMI CO

HUBER HEIGHTS
CORP LIMITS

VANDALIA CORP LIMIT

HALIFAX DR.
LONDONDERRY DR.
DEERVALE CT.
WHITEHORN DR.
MOUNTAIN DR.
HARTSHORN DR.
BRISTOL DR.
BLUCHER CT.
VAN ARDEN DR.
SUNDERLAND DR.
E. NATIONAL RD.
CLUBHOUSE WAY
OLD FALLS DR.
SETTLERS TRAIL
KROGER CENTER
DEMMIT ELEMENTARY SCHOOL
CITY GARAGE
CASSEL HILLS SWIMMING POOL
CASSEL HILLS MUNICIPAL GOLF COURSE
TAYLORSVIEW DR.
ROYALTON DR.
ROBINETTE AVE.
WOLLENHAUPT DR.
BRINDLESTONE DR.
MISTIC LN.
CASSEL CREEK DR.
WEST VANLAKE DR.
EAST VANLAKE DR.
GLENROSE ST.
SCENIC CT.

LEGEND

- APPROXIMATE LOCATIONS OF KNOWN SPRINGS & POOLS
- INFERRED BRASSFIELD-BELFAST OUTCROP CONTACT
- RAILROAD
- ROADWAYS
- SURFACE WATER
- NORTHERN SEGMENT OF THE GREAT MIAMI RIVER RECREATION TRAIL
- PARCEL BOUNDARY

NOTES:

1. AERIAL PHOTOGRAPH AND SURFACE FEATURES PROVIDED BY ODOT.
2. PARCEL BOUNDARIES AND ROADWAYS PROVIDED BY THE CITY OF VANDALIA.
3. LOCATIONS ARE APPROXIMATE.
4. NS - NOT SAMPLED
5. RESULTS ARE IN UG/L.
6. SPRING LOCATIONS E001, E002, AND F001 WERE DRY AT THE TIME OF SAMPLING.

N

0 400 800

SCALE FOR DETAIL IN FEET

HALEY ALDRICH

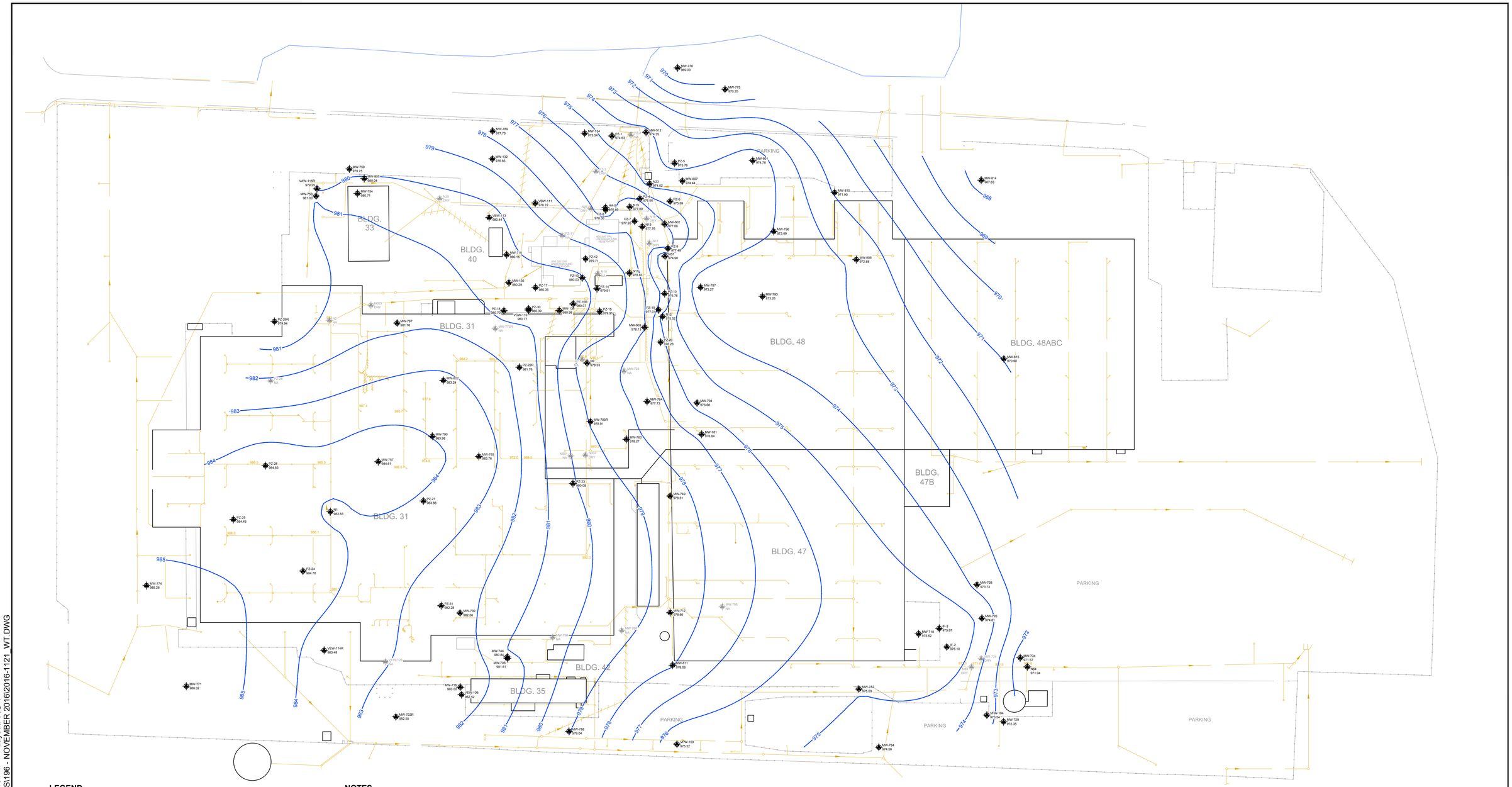
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

OUTCROP SURVEY DECEMBER 2016
SPRING SAMPLE LOCATIONS
TCE & DCE RESULTS

SCALE: AS SHOWN
APRIL 2017

FIGURE 3

G:\79022\GIS\Quarterly\2016 Reporting\2016-1Q_TCE_SR_Spring.mxd



LEGEND

- 980 — POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
- MW-771 — MONITORING WELL SCREENED IN THE SHALLOW WATER TABLE ZONE
- MW-771 N/A — MOITORING WELL NOT ACCESSIBLE AT TIME OF MEASUREMENT
- STORM SEWER SYSTEM
- 972.0 — STORM SEWER INVERT ELEVATION
- UNNAMED TRIBUTARY OF NORTH CREEK
- TUNNELS AND BASEMENTS

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS, OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY, AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 21 NOVEMBER 2016 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.

N

0 100 200 300 400

SCALE IN FEET

HALEY ALDRICH

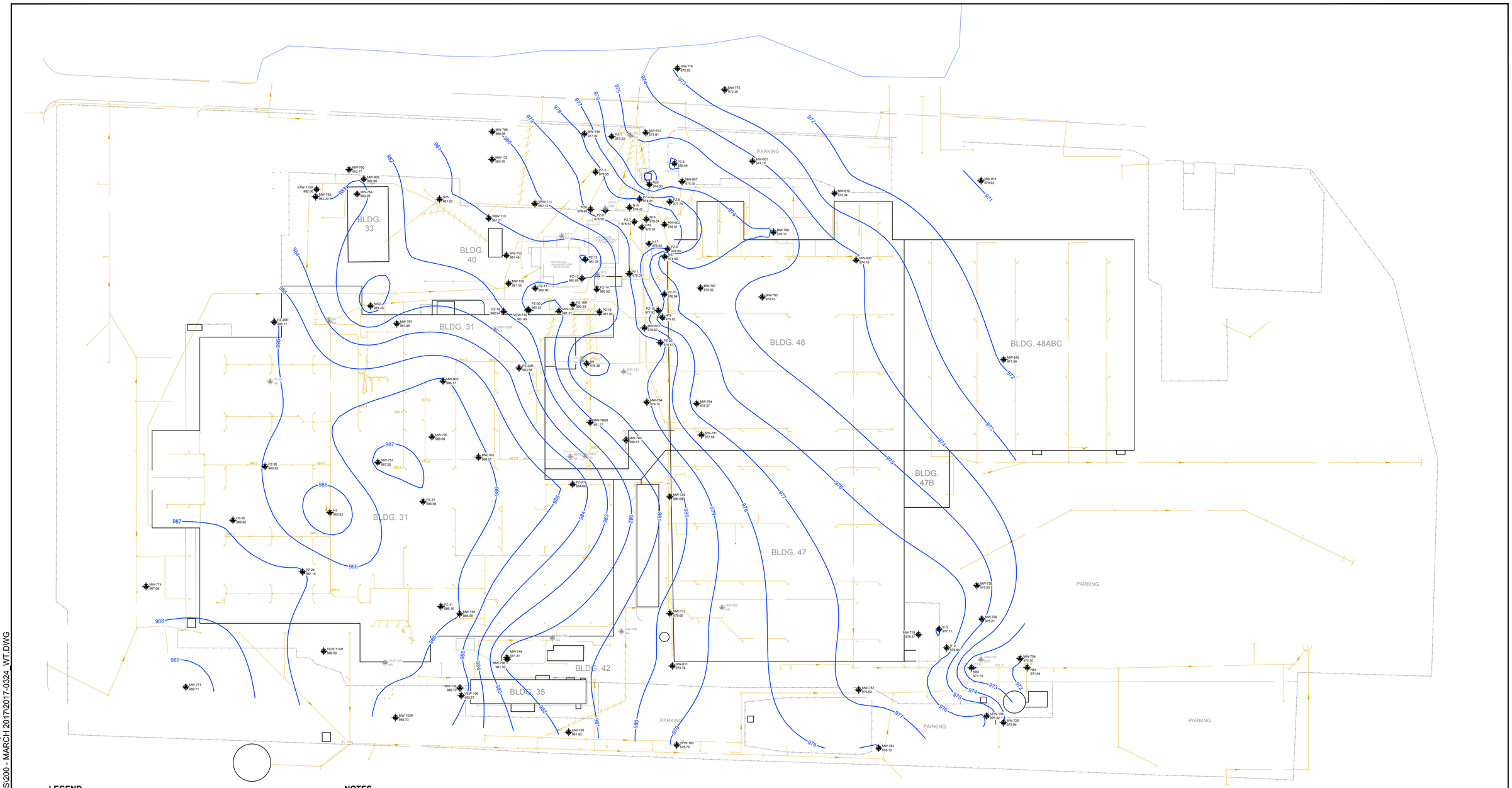
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

POTENTIOMETRIC SURFACE CONTOURS - SHALLOW WATER TABLE ZONE - 21 NOVEMBER 2016

SCALE: AS SHOWN
APRIL 2017

FIGURE 4

MARCH, HEATHER Printed: 2/24/2017 5:16 PM Layout: FIG 4
G:\79022\WATER LEVELS\OVERBURDEN WL\S1196 - NOVEMBER 2016\2016-1121_WT.DWG



LEGEND

- 980 — POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
- MW-771 — MONITORING WELL SCREENED IN THE SHALLOW WATER TABLE ZONE
- MW-771 N/A — MOITORING WELL NOT ACCESSIBLE AT TIME OF MEASUREMENT
- STORM SEWER SYSTEM
- 972.0 — STORM SEWER INVERT ELEVATION
- UNNAMED TRIBUTARY OF NORTH CREEK
- TUNNELS AND BASEMENTS

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS, OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY, AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 24 MARCH 2017 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.

0 100 200 300 400
SCALE IN FEET

HALEY ALDRICH

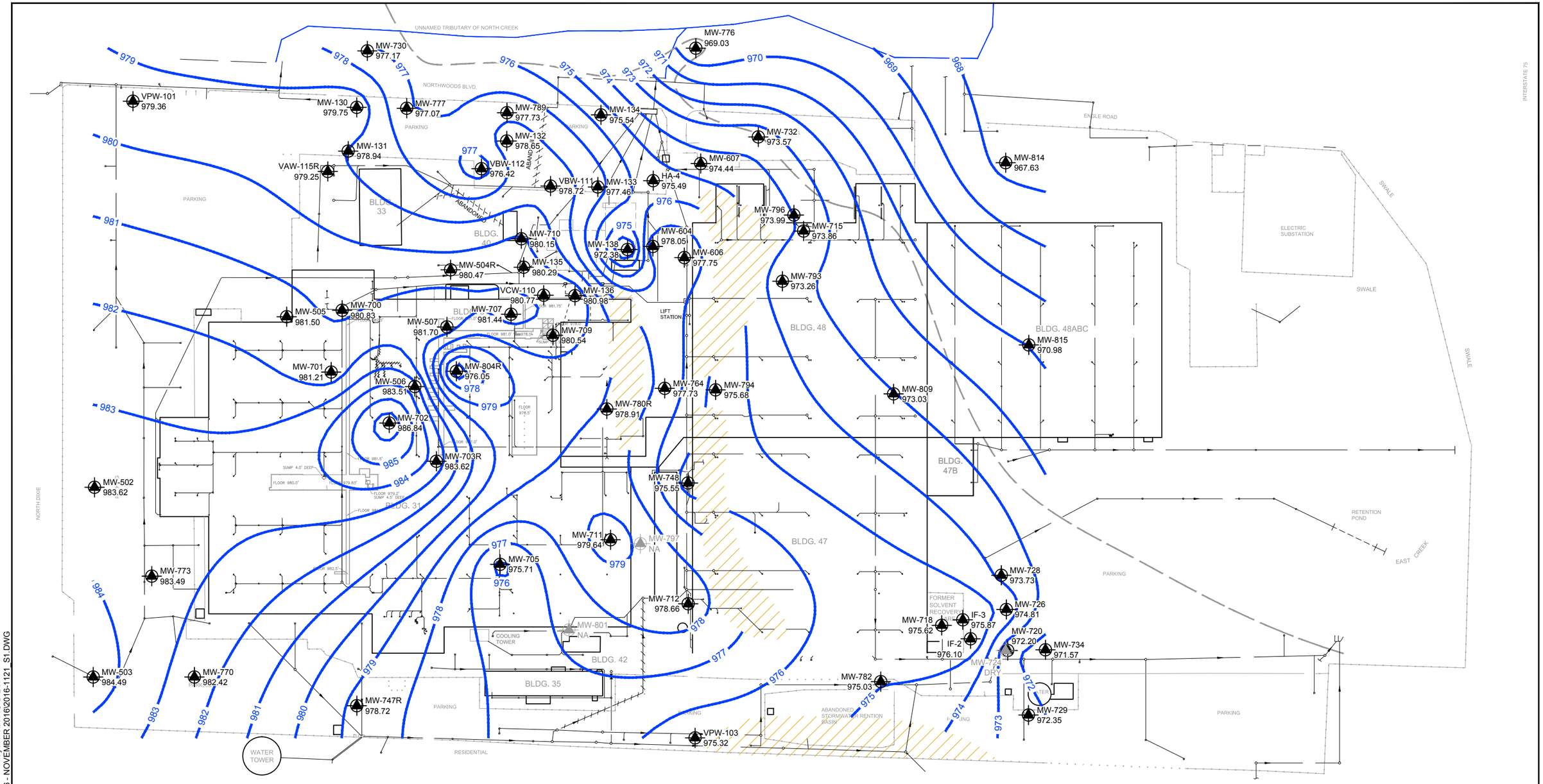
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

POTENTIOMETRIC SURFACE CONTOURS - SHALLOW WATER TABLE ZONE - 24 MARCH 2017

SCALE: AS SHOWN
APRIL 2017

FIGURE 5

MARCH, HEATHER Printed: 4/4/2017 5:54 PM Layout: FIG 5
G:\79022\WATER LEVELS\OVERBURDEN WLS\200 - MARCH 2017\2017-0324_WT.DWG



LEGEND

- MW-770 984.34 — MONITORING WELL SCREENED IN THE FIRST SAND WITH GROUNDWATER ELEVATION
- 980 — POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
- AREA DETERMINED AS NOT HAVING THE FIRST SAND UNIT (FIRST SAND UNIT MAY NOT BE PRESENT IN OTHER UNDETERMINED AREAS)
- AREA DETERMINED AS HAVING THE FIRST SAND UNIT REPLACED BY FILL DURING SEWER CONSTRUCTION
- UNNAMED TRIBUTARY OF NORTH CREEK
- APPROXIMATE LOCATION OF INTERPRETED FIRST SAND MERGE WITH SECOND SAND

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 21 NOVEMBER 2016 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.

N

0 200 400
SCALE IN FEET

HALEY ALDRICH

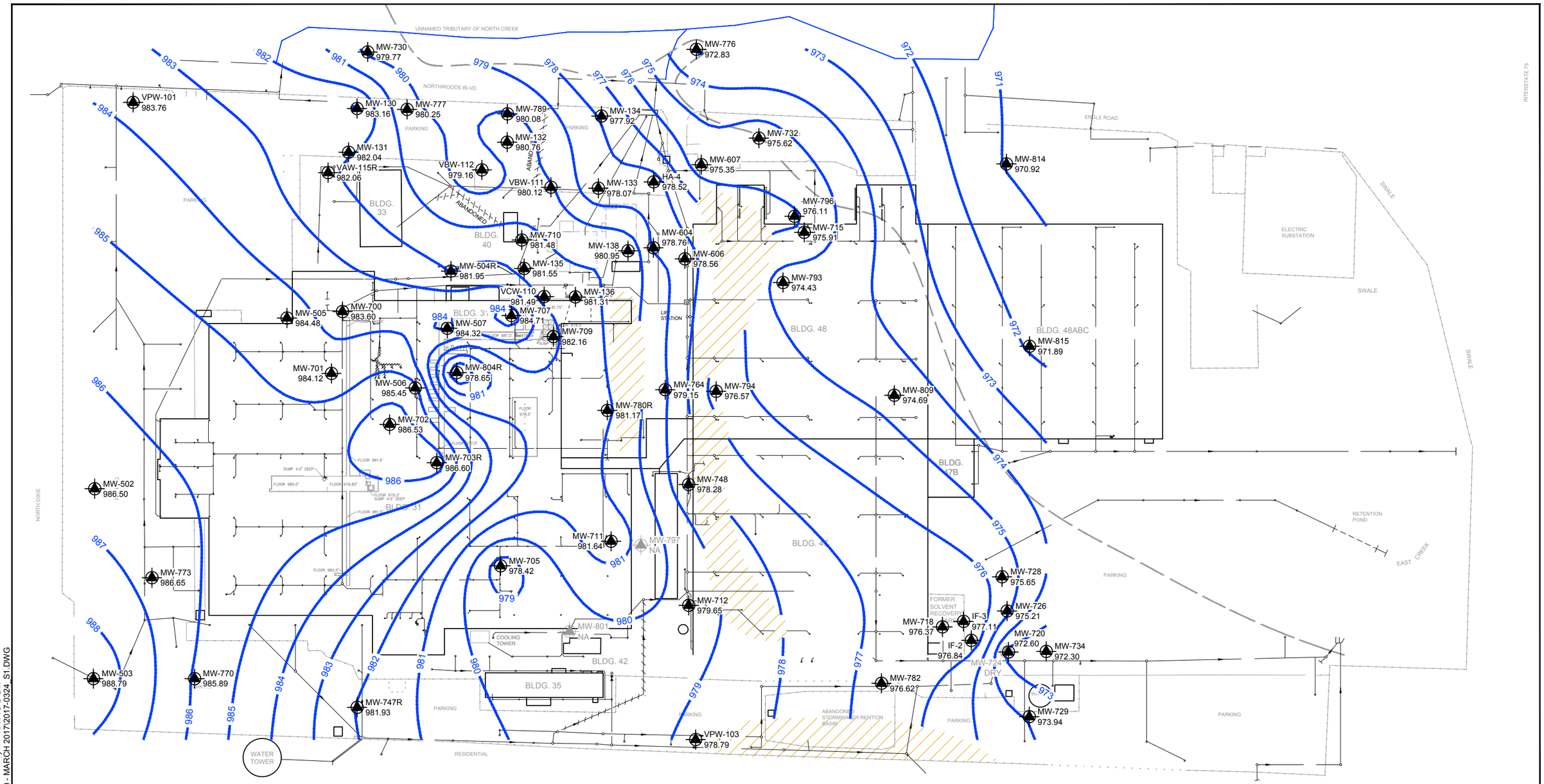
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

POTENTIOMETRIC SURFACE CONTOURS - 21 NOVEMBER 2016 FIRST SAND ZONE

SCALE: AS SHOWN
APRIL 2017

FIGURE 6

MARCH, HEATHER Printed: 2/24/2017 4:54 PM Layout: HA-FIG-B-L-H
G:\79\22\WATER LEVELS\OVERBURDEN WLS\196 - NOVEMBER 2016\2016-11\21_S1.DWG



MARCH, HEATHER Printed: 4/4/2017 6:20 PM Layout: HA-FIG-B-L-H
G:\79022\WATER LEVELS\OVERBURDEN WLS\200 - MARCH 2017\2017-0324_S1.DWG

LEGEND

- MW-770 984.34 — MONITORING WELL SCREENED IN THE FIRST SAND WITH GROUNDWATER ELEVATION
- 980 — POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
- AREA DETERMINED AS NOT HAVING THE FIRST SAND UNIT (FIRST SAND UNIT MAY NOT BE PRESENT IN OTHER UNDETERMINED AREAS)
- AREA DETERMINED AS HAVING THE FIRST SAND UNIT REPLACED BY FILL DURING SEWER CONSTRUCTION
- UNNAMED TRIBUTARY OF NORTH CREEK
- APPROXIMATE LOCATION OF INTERPRETED FIRST SAND MERGE WITH SECOND SAND

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 24 MARCH 2017 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.

N

0 200 400
SCALE IN FEET

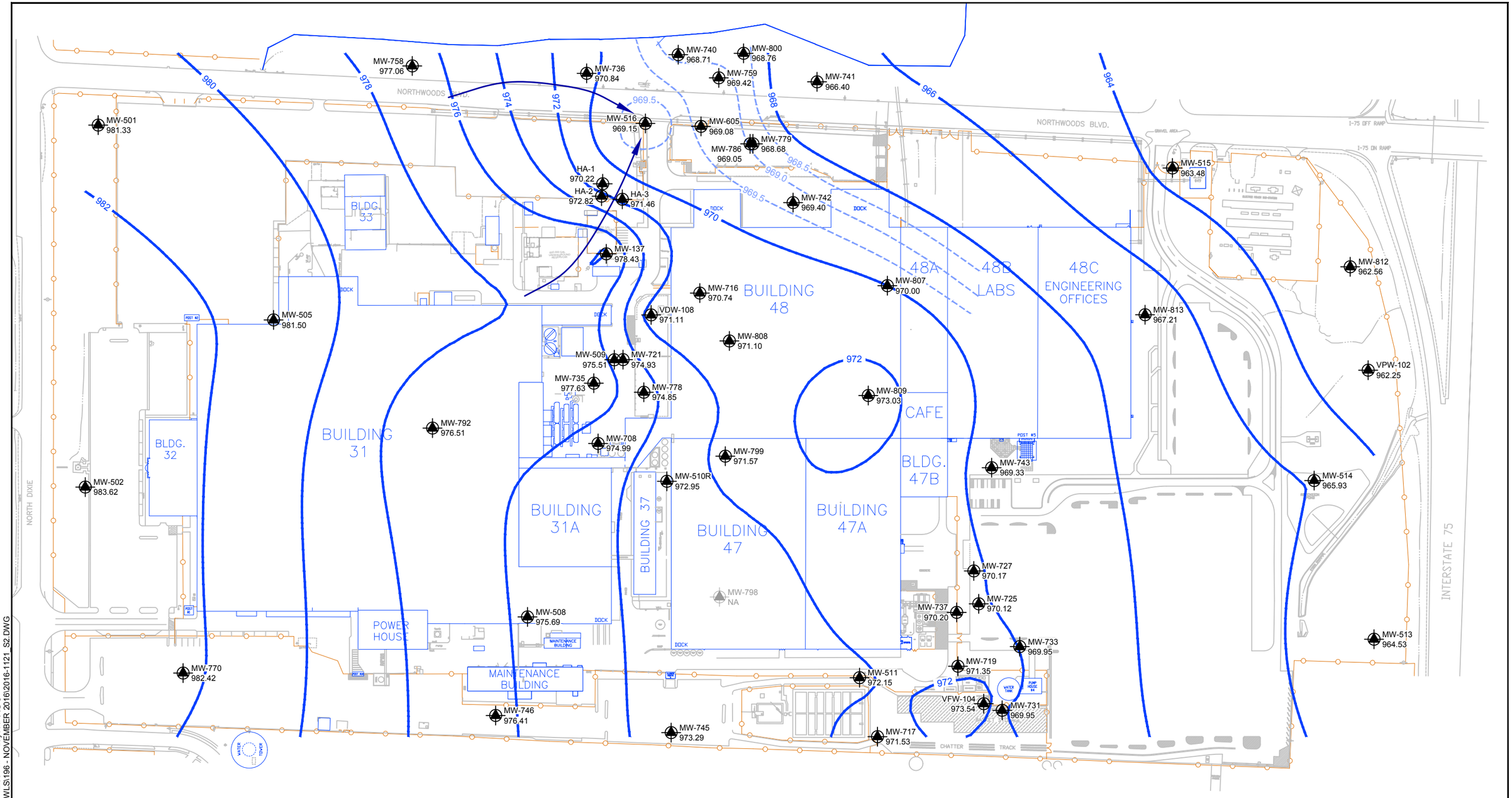
HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

POTENTIOMETRIC SURFACE CONTOURS - 24 MARCH 2017 FIRST SAND ZONE

SCALE: AS SHOWN
APRIL 2017

FIGURE 7



LEGEND

- MW701 981.30 — MONITORING WELL OR PIEZOMETER WITH GROUNDWATER ELEVATION
- 980 — POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
- UNNAMED TRIBUTARY OF NORTH CREEK
- NA — MONITORING WELL NOT ACCESSIBLE DUE TO ACCESS RESTRICTIONS

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVED POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 21 NOVEMBER 2016 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.

N

0 200 400

SCALE IN FEET

HALEY ALDRICH

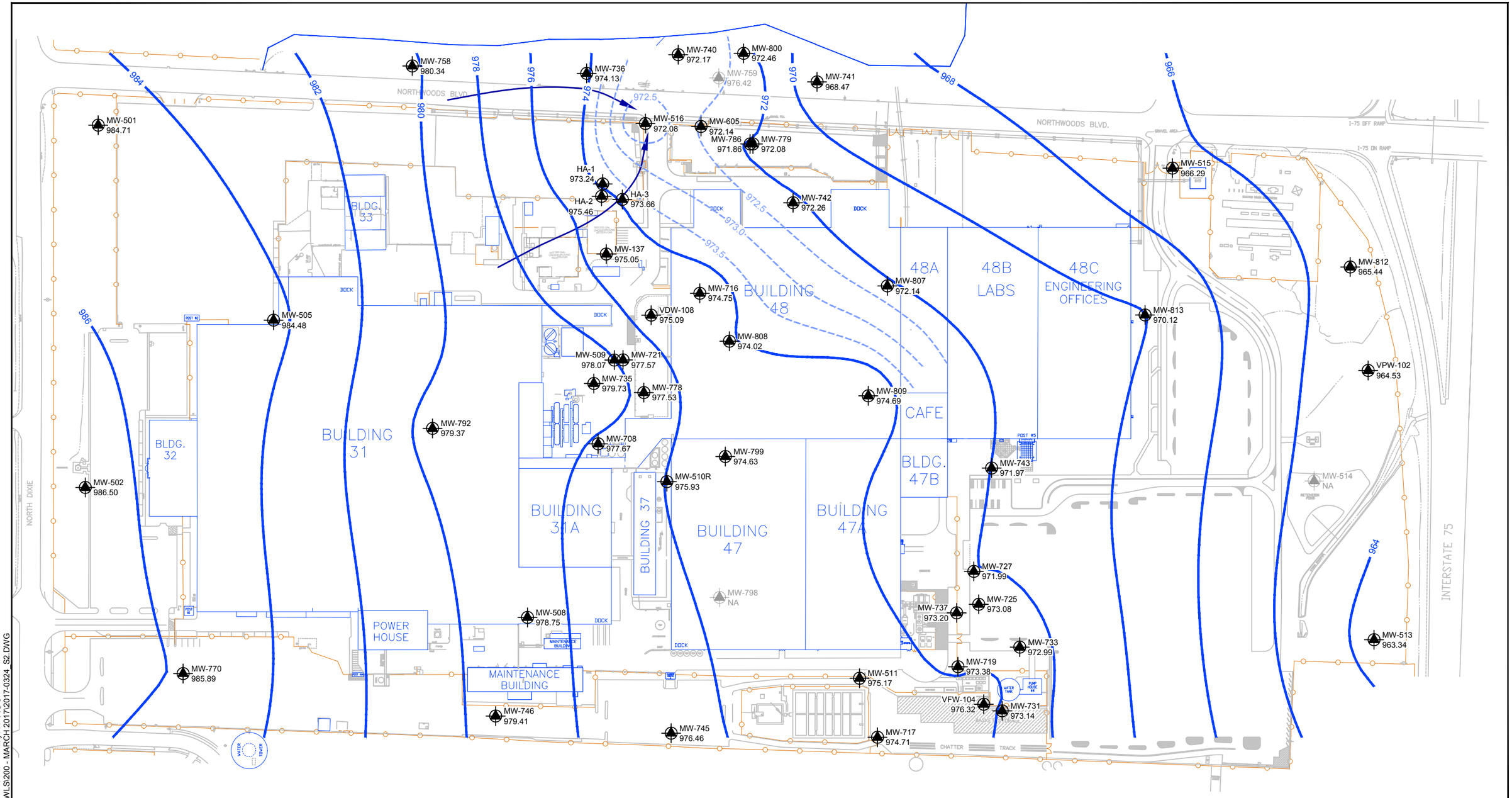
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

POTENTIOMETRIC SURFACE CONTOURS - 21 NOVEMBER 2016 SECOND SAND ZONE

SCALE: AS SHOWN
APRIL 2017

FIGURE 8

MARCH, HEATHER Printed: 4/13/2017 12:58 AM Layout: FIG 8
G:\79022\WATER LEVELS\OVERBURDEN WLS\196 - NOVEMBER 2016\2016-1121_S2.DWG



LEGEND

MW701 981.30	MONITORING WELL OR PIEZOMETER WITH GROUNDWATER ELEVATION
980	POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
	UNNAMED TRIBUTARY OF NORTH CREEK
NA	MONITORING WELL NOT ACCESSIBLE DUE TO ACCESS RESTRICTIONS

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVED POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 24 MARCH 2017 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.

N

0 200 400

SCALE IN FEET

HALEY ALDRICH

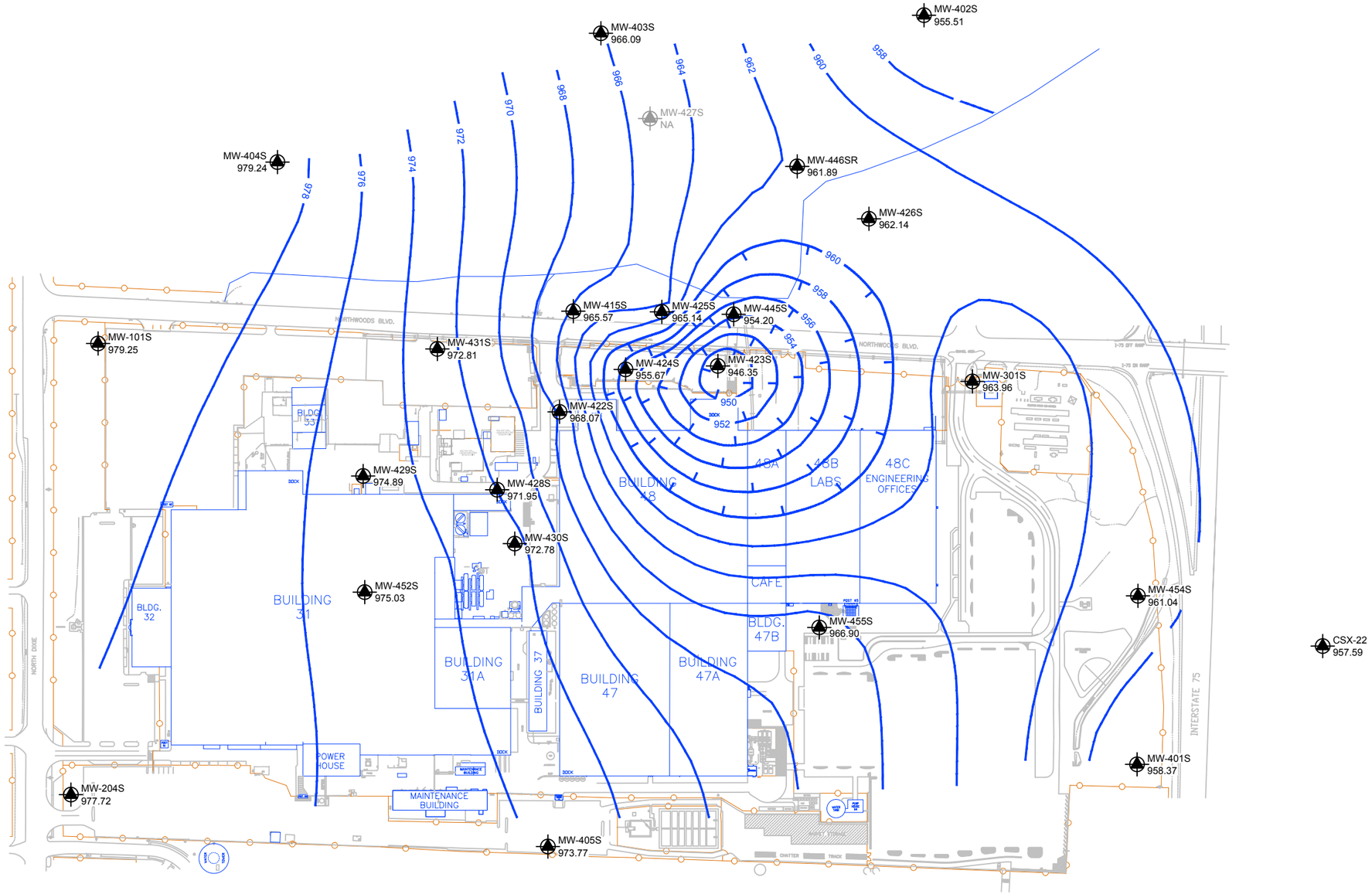
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

POTENTIOMETRIC SURFACE CONTOURS - 24 MARCH 2017 SECOND SAND ZONE

SCALE: AS SHOWN
APRIL 2017

FIGURE 9

MARCH, HEATHER Printed:4/13/2017 1:15 AM Layout: FIG 9
G:\79022\WATER LEVELS\OVERBURDEN WLS\200 - MARCH 2017\2017-0324_S2.DWG



LEGEND

MW-204S 979.24	MONITORING WELL OR PIEZOMETER WITH GROUNDWATER ELEVATION
980	POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
	UNNAMED TRIBUTARY OF NORTH CREEK
NA	MONITORING WELL NOT ACCESSIBLE DUE TO ACCESS RESTRICTIONS

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. MW-427S WAS NOT GAUGED AND THEREFORE EXCLUDED FROM THE POTENTIOMETRIC SURFACE.

N

0 300 600

SCALE IN FEET

HALEY ALDRICH

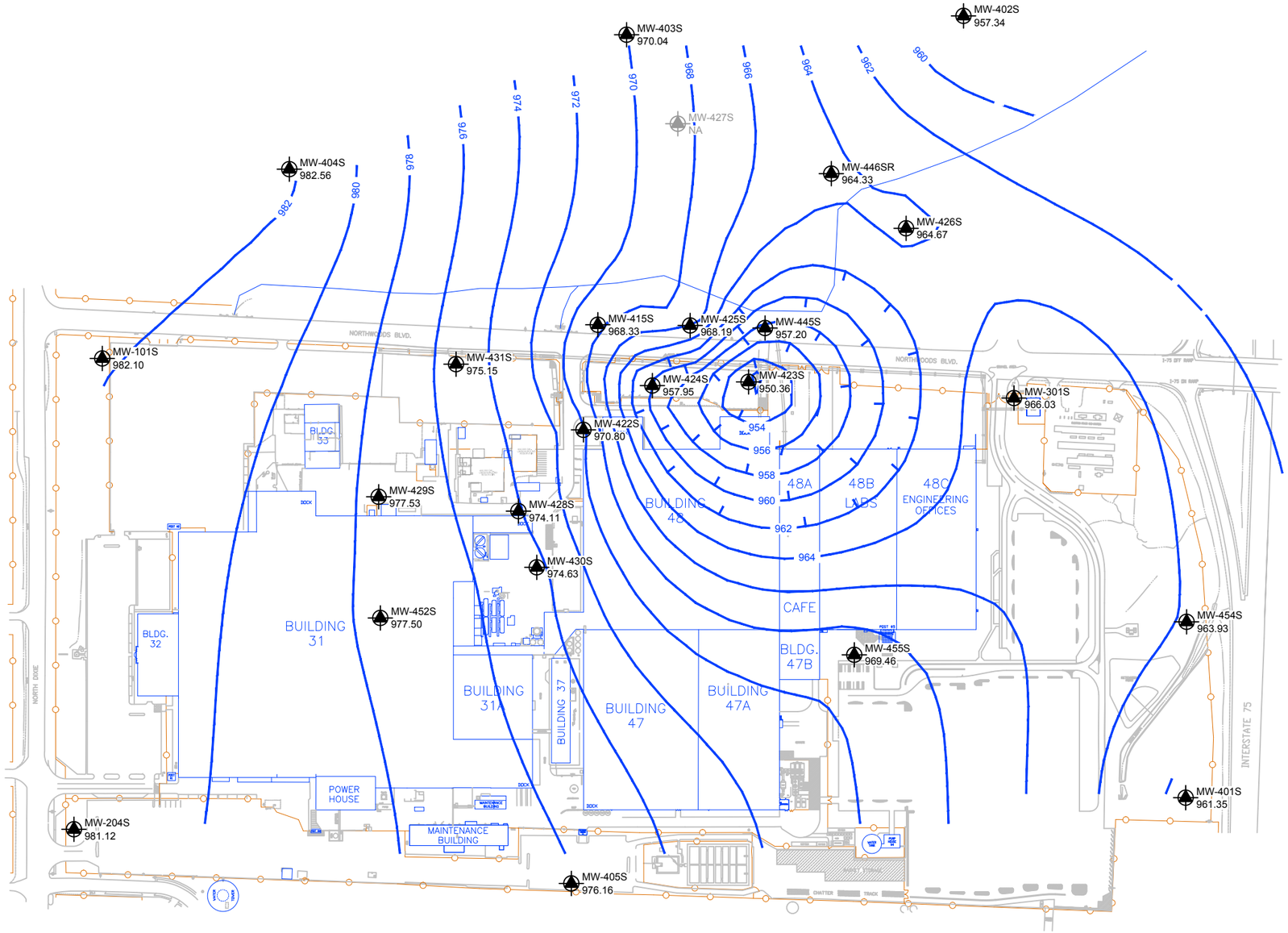
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

POTENTIOMETRIC SURFACE CONTOURS - 22 NOVEMBER 2016 TOP OF ROCK ZONE

SCALE: AS SHOWN
APRIL 2017

FIGURE 10

MARCH, HEATHER Printed: 2/24/2017 4:39 PM Layout: HA-F(G-B-L-H
G:\79022\WATER LEVELS\BEDROCK WLS\201 - NOVEMBER 2016\2016-1122_TOR_CONTOURS.DWG



LEGEND

- MW-204S 979.24 — MONITORING WELL OR PIEZOMETER WITH GROUNDWATER ELEVATION
- 980 — POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
- UNNAMED TRIBUTARY OF NORTH CREEK
- NA — MONITORING WELL NOT ACCESSIBLE DUE TO ACCESS RESTRICTIONS

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. MW-427S WAS NOT GAUGED AND THEREFORE EXCLUDED FROM THE POTENTIOMETRIC SURFACE.

N

0 300 600

SCALE IN FEET

HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

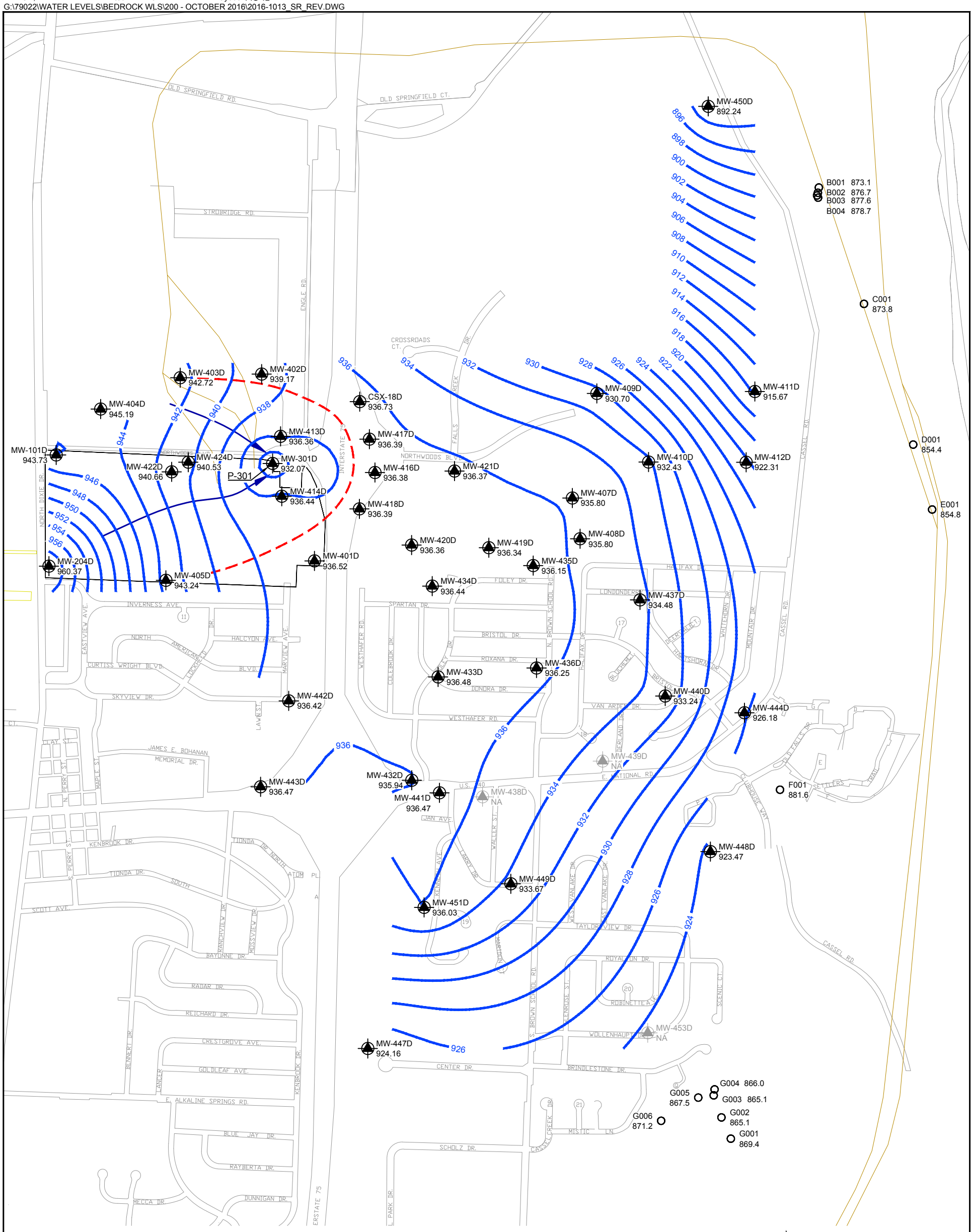
POTENTIOMETRIC SURFACE CONTOURS - 31 JANUARY 2017 TOP OF ROCK ZONE

SCALE: AS SHOWN
APRIL 2017

FIGURE 11

MARCH, HEATHER Printed: 2/24/2017 4:44 PM Layout: HA-F(G,B,L,H)
G:\79022\WATER LEVELS\BEDROCK WLS\203 - JANUARY 2017\2017-0131_TOR_CONTOURS.DWG

MARCH, HEATHER Printed: 2/24/2017 2:21 PM Layout: FIG 12
G:\79022\WATER LEVELS\BEDROCK WLS\200 - OCTOBER 2016\2016-1013_SR_REV.DWG



LEGEND

- FACILITY BOUNDARY
- MONITORING WELL
- SPRING LOCATION
- POTENTIOMETRIC SURFACE CONTOUR
- EASTERN LIMITS OF APPARENT CAPTURE ZONE

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMACTIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ARE LISTED IN APPENDIX A.

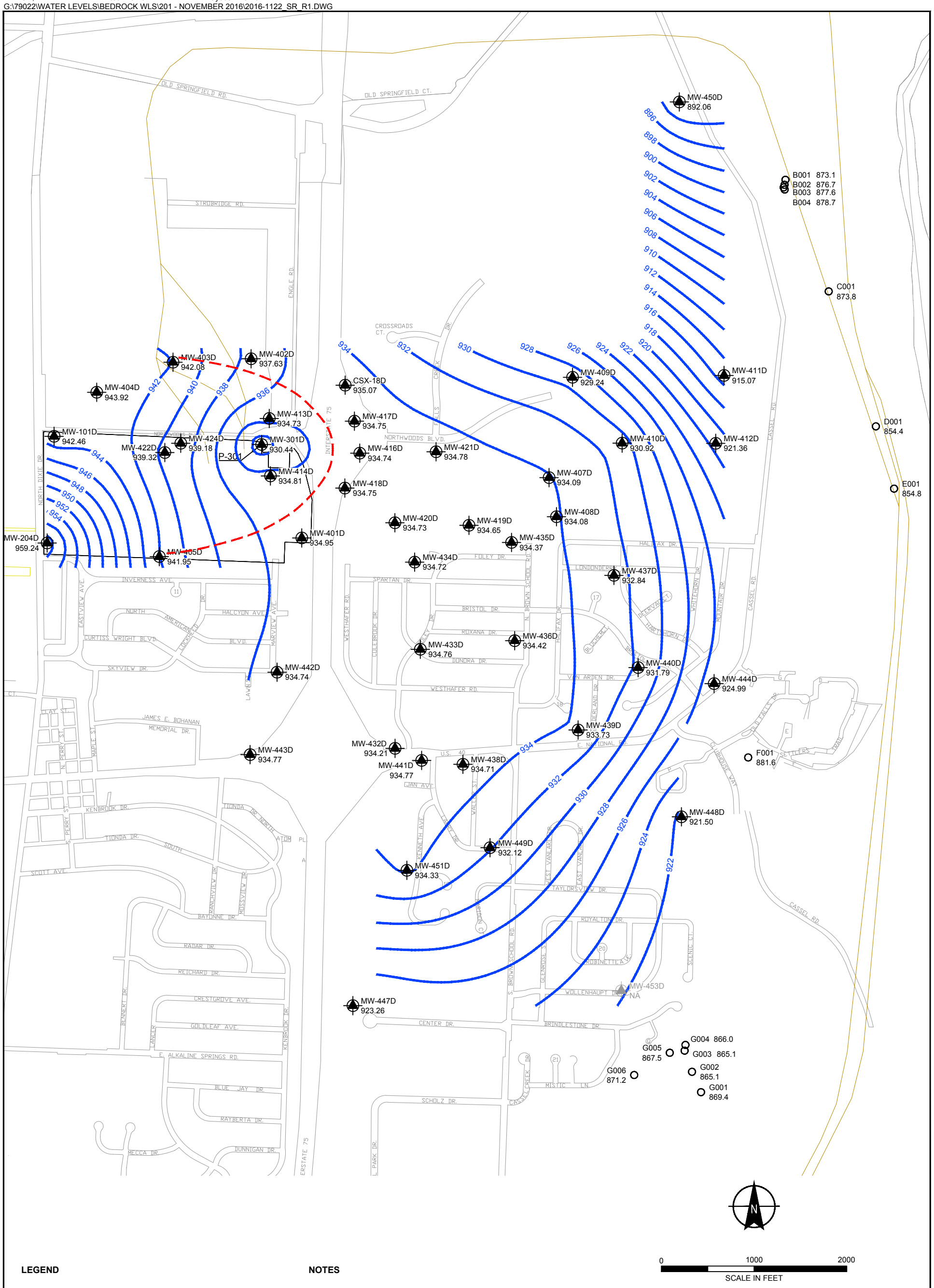
HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

DEEP BEDROCK (SUGAR ROCK/BELFAST TRANSITION ZONE) POTENTIOMETRIC SURFACE CONTOURS - 13 OCTOBER 2016

SCALE: AS SHOWN
APRIL 2017

FIGURE 12



LEGEND

- FACILITY BOUNDARY
- MONITORING WELL
- SPRING LOCATION
- POTENTIOMETRIC SURFACE CONTOUR
- EASTERN LIMITS OF APPARENT CAPTURE ZONE

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMACTIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ARE LISTED IN APPENDIX A.

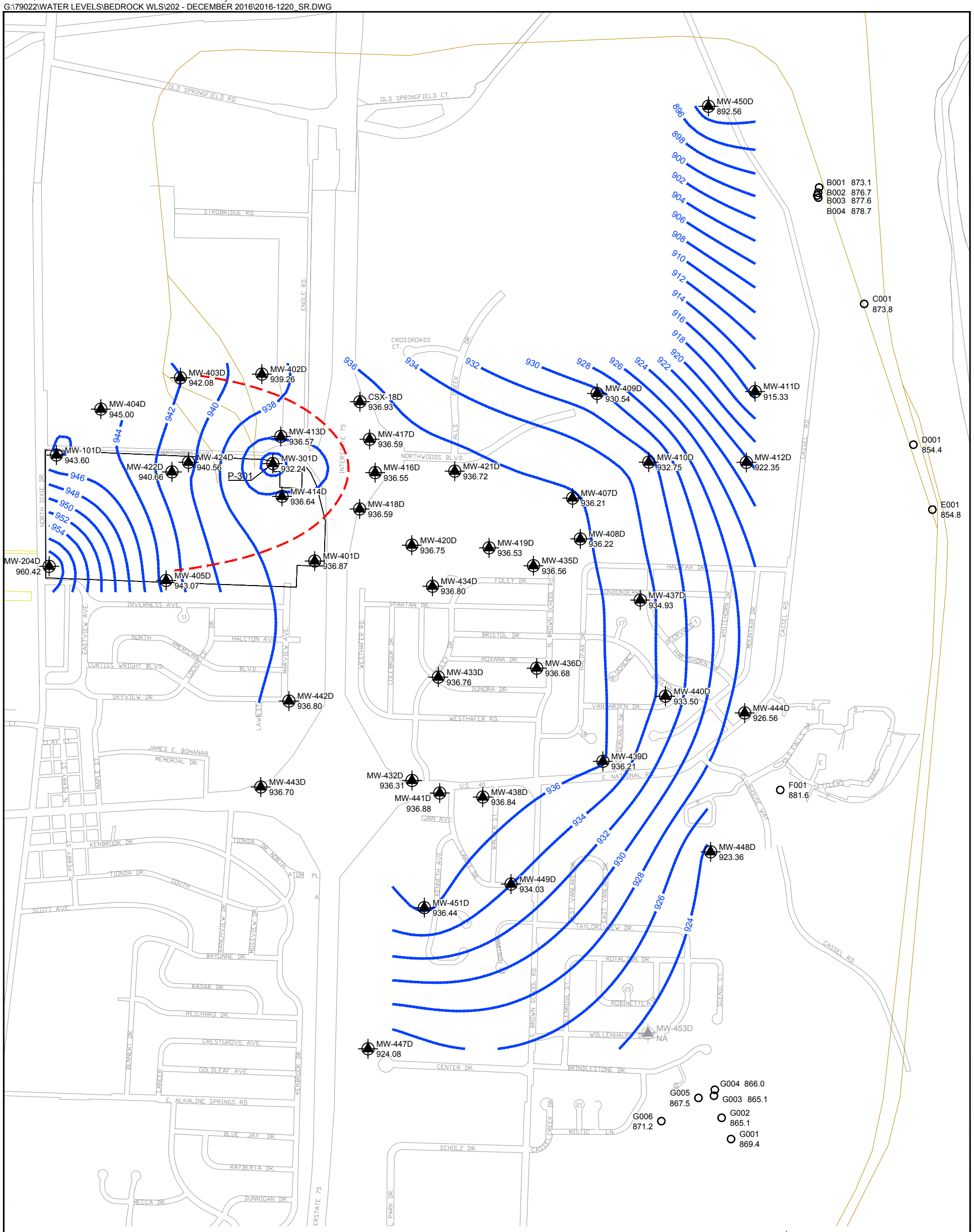
HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

DEEP BEDROCK (SUGAR ROCK/BELFAST TRANSITION ZONE) POTENTIOMETRIC SURFACE CONTOURS - 22 NOVEMBER 2016

SCALE: AS SHOWN
APRIL 2017

FIGURE 13



LEGEND

- FACILITY BOUNDARY
- MONITORING WELL
- SPRING LOCATION
- POTENTIOMETRIC SURFACE CONTOUR
- EASTERN LIMITS OF APPARENT CAPTURE ZONE

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMACTIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ARE LISTED IN APPENDIX A.

HALEY ALDRICH

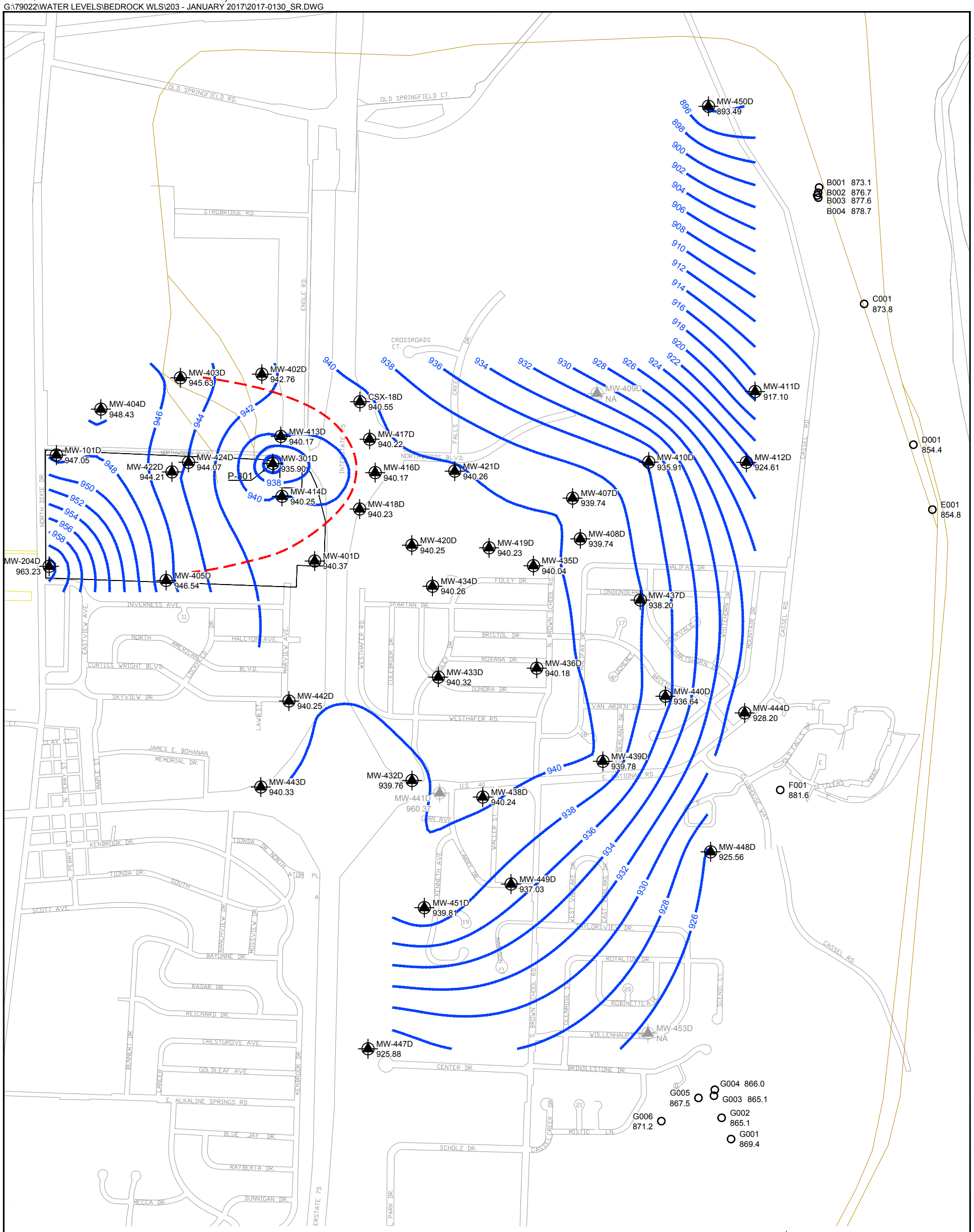
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

DEEP BEDROCK (SUGAR ROCK/BELFAST TRANSITION ZONE) POTENTIOMETRIC SURFACE CONTOURS - 20 DECEMBER 2016

SCALE: AS SHOWN
APRIL 2017

FIGURE 14

MARCH, HEATHER Printed: 4/5/2017 11:57 AM Layout: FIG 15
G:\79022\WATER LEVELS\BEDROCK WLS\203 - JANUARY 2017\2017-0130_SR.DWG



LEGEND

- FACILITY BOUNDARY
- MONITORING WELL
- SPRING LOCATION
- POTENTIOMETRIC SURFACE CONTOUR
- EASTERN LIMITS OF APPARENT CAPTURE ZONE

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMACTIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ARE LISTED IN APPENDIX A.

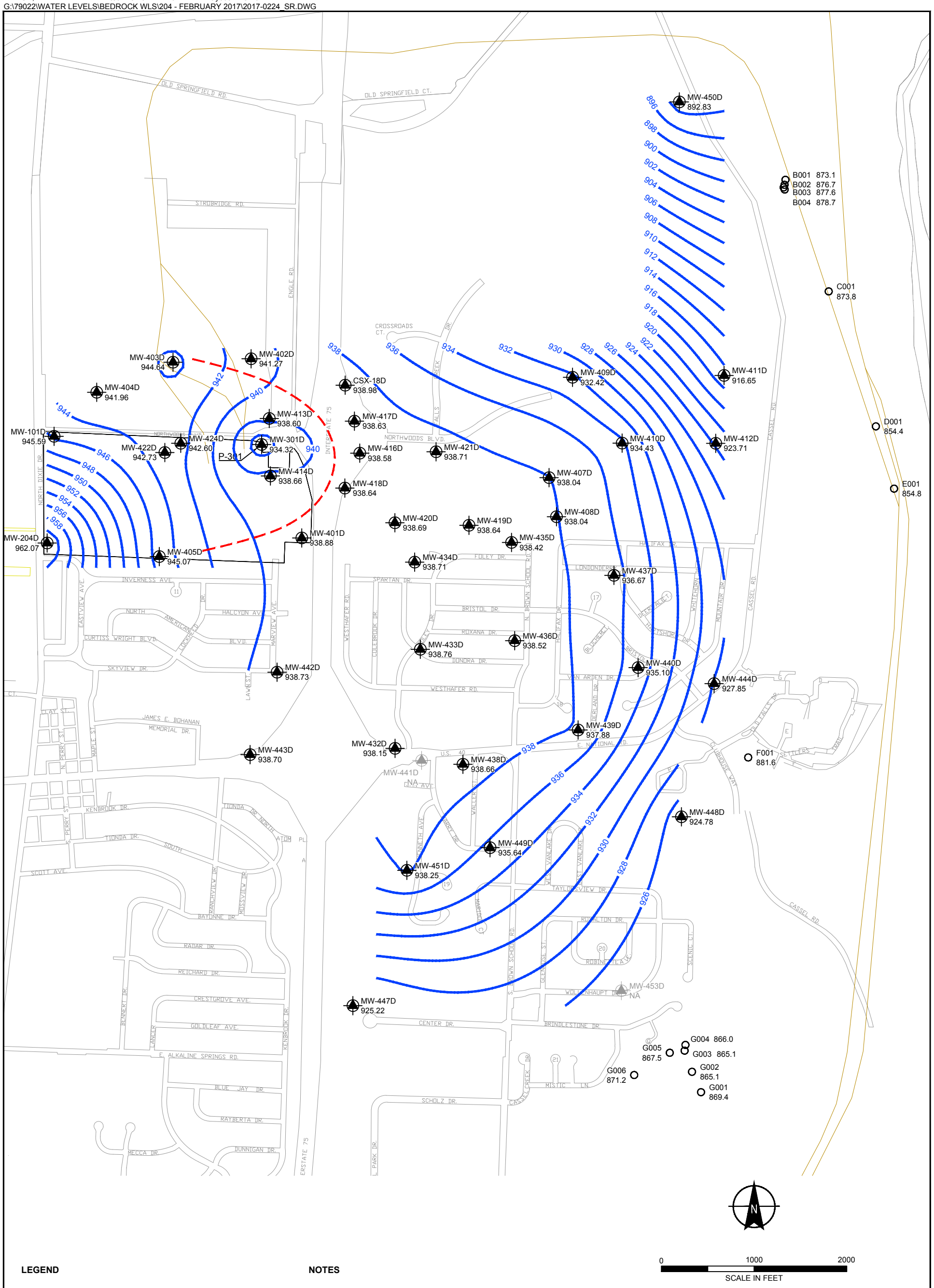
HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

DEEP BEDROCK (SUGAR ROCK/BELFAST TRANSITION ZONE) POTENTIOMETRIC SURFACE CONTOURS - 30 JANUARY 2017

SCALE: AS SHOWN
APRIL 2017

FIGURE 15



LEGEND

- FACILITY BOUNDARY
- MONITORING WELL
- SPRING LOCATION
- POTENTIOMETRIC SURFACE CONTOUR
- EASTERN LIMITS OF APPARENT CAPTURE ZONE

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMACTIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ARE LISTED IN APPENDIX A.

N

0 1000 2000
SCALE IN FEET

HALEY ALDRICH

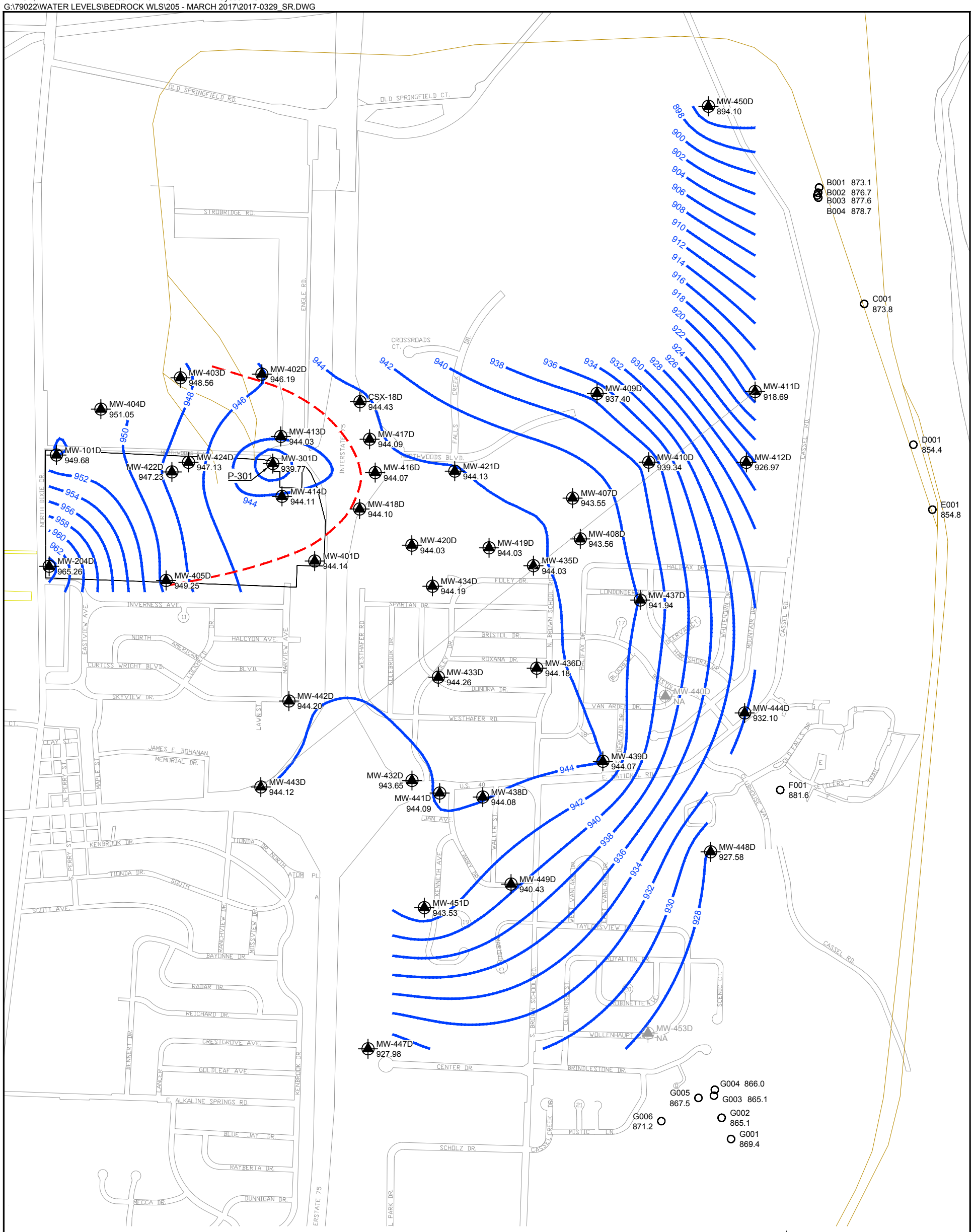
MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

DEEP BEDROCK (SUGAR ROCK/BELFAST TRANSITION ZONE) POTENTIOMETRIC SURFACE CONTOURS - 24 FEBRUARY 2017

SCALE: AS SHOWN
APRIL 2017

FIGURE 16

MARCH, HEATHER Printed: 4/6/2017 10:12 AM Layout: FIG 17
G:\79022\WATER LEVELS\BEDROCK WLS\205 - MARCH 2017\2017-0329_SR.DWG



LEGEND

- FACILITY BOUNDARY
- MONITORING WELL
- SPRING LOCATION
- POTENTIOMETRIC SURFACE CONTOUR
- EASTERN LIMITS OF APPARENT CAPTURE ZONE

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMACTIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ARE LISTED IN APPENDIX A.

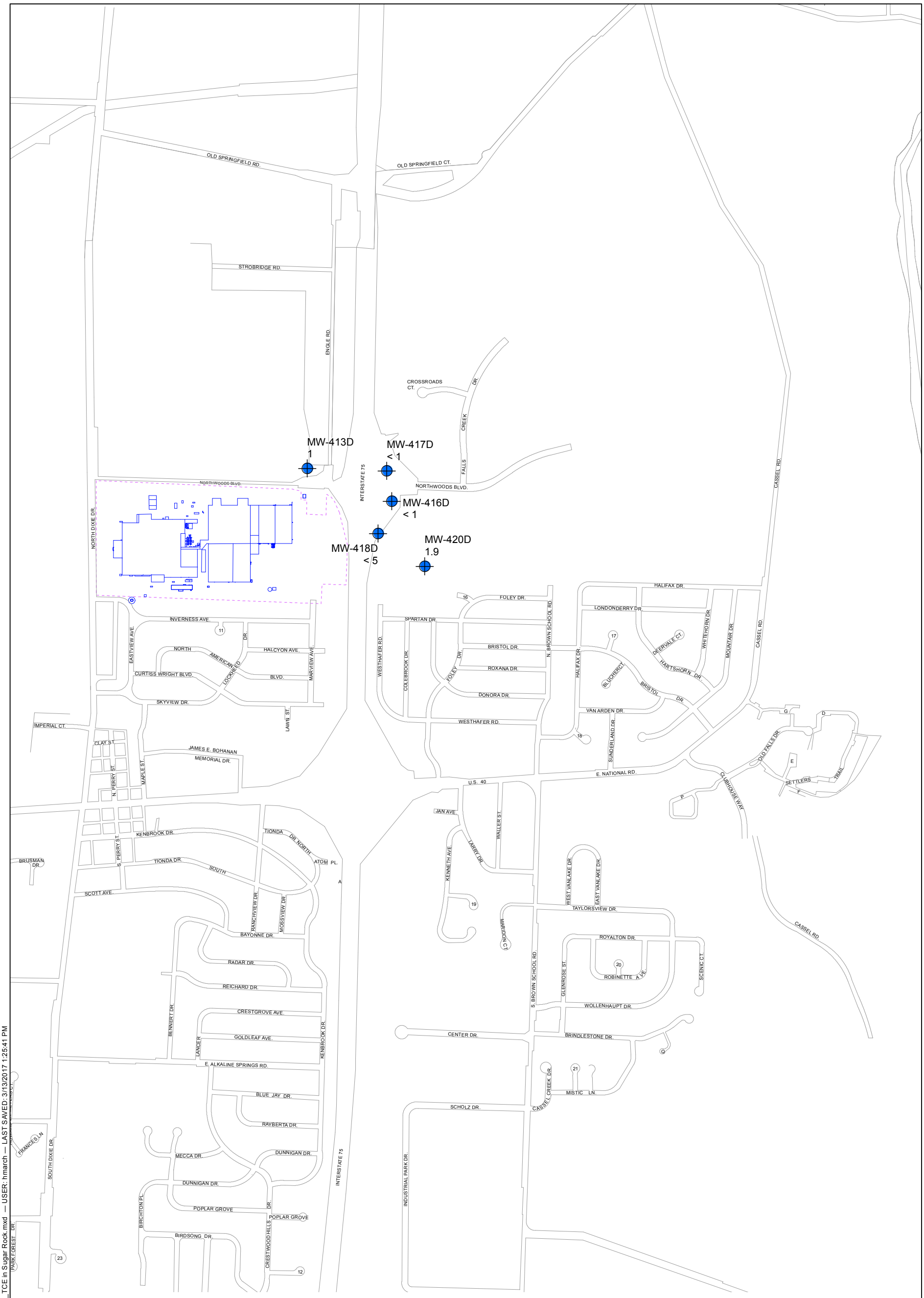
HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

DEEP BEDROCK (SUGAR ROCK/BELFAST TRANSITION ZONE) POTENTIOMETRIC SURFACE CONTOURS - 29 MARCH 2017

SCALE: AS SHOWN
APRIL 2017

FIGURE 17



LEGEND

- <1 - 10 ug/L
- >10 - 50 ug/L
- >50 - 500 ug/L
- >500 - 5,000 ug/L
- >5,000 ug/L
- MW-422D <1 — MONITORING WELL WITH TRICHLOROETHENE (TCE) RESULT IN ug/L
- ROAD
- APPROXIMATE FACILITY BOUNDARY
- BUILDING

N

0 1,000 2,000
SCALE IN FEET

HALEY ALDRICH

MAHLE BEHR DAYTON LLC
VANDALIA, OHIO

FOURTH QUARTER 2016
TCE IN SUGAR ROCK

MARCH 2017

FIGURE 18

GIS FILE PATH: G:\79022\GIS\Quarterly\2017 Reporting\2016-4Q_TCE in Sugar Rock.mxd — USER: hmarch — LAST SAVED: 3/13/2017 1:25:41 PM

APPENDIX A

Water Level Measurements

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
BEDROCK MONITORING WELLS
OCTOBER 2016
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	10/13/2016	10:03	28.23	964.96	936.73	
MW-101D	SR	10/13/2016	12:39	44.42	988.15	943.73	
MW-204D	SR	10/13/2016	12:36	33.89	994.26	960.37	
MW-301D	SR	10/13/2016	9:44	38.37	970.44	932.07	
MW-401D	SR	10/13/2016	13:48	38.05	974.57	936.52	
MW-402D	SR	10/13/2016	10:22	27.19	966.36	939.17	
MW-403D	SR	10/13/2016	13:25	34.64	977.36	942.72	
MW-404D	SR	10/13/2016	12:45	43.64	988.83	945.19	
MW-405D	SR	10/13/2016	13:32	39.21	982.45	943.24	
MW-407D	SR	10/13/2016	14:16	20.44	956.24	935.80	
MW-408D	SR	10/13/2016	14:21	21.27	957.07	935.80	
MW-409D	SR	10/13/2016	14:08	11.79	942.49	930.70	
MW-410D	SR	10/13/2016	14:28	15.20	947.63	932.43	
MW-411D	SR	10/13/2016	11:17	27.76	943.43	915.67	
MW-412D	SR	10/13/2016	11:31	27.33	949.64	922.31	
MW-413D	SR	10/13/2016	10:10	33.77	970.13	936.36	
MW-414D	SR	10/13/2016	9:47	35.47	971.91	936.44	
MW-416D	SR	10/13/2016	9:56	29.46	965.84	936.38	
MW-417D	SR	10/13/2016	10:06	28.57	964.96	936.39	
MW-418D	SR	10/13/2016	9:52	28.67	965.06	936.39	
MW-419D	SR	10/13/2016	13:56	31.06	967.40	936.34	
MW-419M	MB	10/13/2016	13:57	31.10	967.50	936.40	
MW-420D	SR	10/13/2016	13:53	28.90	965.26	936.36	
MW-420M	MB	10/13/2016	13:52	28.35	964.85	936.50	
MW-421D	SR	10/13/2016	14:02	22.13	958.50	936.37	
MW-422D	SR	10/13/2016	13:36	40.32	980.98	940.66	
MW-424D	SR	10/13/2016	13:41	39.21	979.74	940.53	
MW-432D	SR	10/13/2016	10:27	38.56	974.50	935.94	
MW-432M	MB	10/13/2016	10:29	21.94	974.90	952.96	
MW-433D	SR	10/13/2016	10:34	33.95	970.43	936.48	
MW-434D	SR	10/13/2016	10:38	28.89	965.33	936.44	
MW-435D	SR	10/13/2016	10:42	19.76	955.91	936.15	
MW-436D	SR	10/13/2016	10:46	26.12	962.37	936.25	
MW-437D	SR	10/13/2016	11:01	13.90	948.38	934.48	
MW-438D	SR	10/13/2016	12:13		972.59		Inaccessible
MW-439D	SR	10/13/2016	10:49		955.58		Inaccessible
MW-440D	SR	10/13/2016	10:54	3.46	936.70	933.24	
MW-441D	SR	10/13/2016	12:11	37.91	974.38	936.47	
MW-442D	SR	10/13/2016	12:27	39.26	975.68	936.42	
MW-443D	SR	10/13/2016	12:22	43.25	979.72	936.47	
MW-444D	SR	10/13/2016	11:35	8.00	934.18	926.18	
MW-447D	SR	10/13/2016	11:52	41.68	965.84	924.16	
MW-448D	SR	10/13/2016	11:41	11.91	935.38	923.47	
MW-449D	SR	10/13/2016	11:57	36.77	970.44	933.67	
MW-450D	SR	10/13/2016	11:08	18.27	910.51	892.24	
MW-451D	SR	10/13/2016	12:04	31.29	967.32	936.03	
MW-453D	SR	10/13/2016	11:47		923.25		Artesian

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
OVERBURDEN MONITORING WELLS
NOVEMBER 2016
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
HA-1	S2	11/21/2016	10:15	12.02	982.24	970.22	
HA-2	S2	11/21/2016	10:09	9.88	982.70	972.82	
HA-3	S2	11/21/2016	10:01	11.15	982.61	971.46	
HA-4	S1	11/21/2016	10:21	5.65	981.14	975.49	
HA-5	WT	11/21/2016	10:06	6.25	982.94	976.69	
IF-2	WT/S1	11/21/2016	11:23	2.54	978.64	976.10	
IF-3	WT/S1	11/21/2016	11:25	2.74	978.61	975.87	
MW-130	S1	11/21/2016	14:11	6.27	986.02	979.75	
MW-131	S1	11/21/2016	14:02	6.78	985.72	978.94	
MW-132	WT/S1	11/21/2016	14:20	5.42	984.07	978.65	
MW-133	S1	11/21/2016	14:45	5.67	983.13	977.46	
MW-134	WT/S1	11/21/2016	14:30	4.24	979.78	975.54	
MW-135	WT/S1	11/21/2016	13:54	4.57	984.86	980.29	
MW-136	WT/S1	11/21/2016	14:42	4.69	985.67	980.98	
MW-137	S2	11/21/2016	10:28	3.81	982.24	978.43	
MW-138	S1	11/21/2016	10:25	9.86	982.24	972.38	
MW-501	S2	11/21/2016	14:23	7.40	988.73	981.33	
MW-502	S1/S2	11/21/2016	14:19	6.58	990.20	983.62	
MW-503	S1	11/21/2016	11:26	10.00	994.49	984.49	
MW-504R	S1	11/21/2016	12:19	3.95	984.42	980.47	
MW-505	S1/S2	11/21/2016	12:39	7.78	989.28	981.50	
MW-506	S1	11/21/2016	12:10	5.45	988.96	983.51	
MW-507	S1	11/21/2016	11:59	7.26	988.96	981.70	
MW-508	S2	11/21/2016	12:02	13.38	989.07	975.69	
MW-509	S2	11/21/2016	11:08	9.89	985.40	975.51	
MW-510R	S2	11/21/2016	10:34	8.56	981.51	972.95	
MW-511	S2	11/21/2016	11:11	7.91	980.06	972.15	
MW-512	WT	11/21/2016	10:17	4.80	979.15	974.35	
MW-513	S2	11/21/2016	15:51	10.31	974.84	964.53	
MW-514	S2	11/21/2016	15:47	2.38	968.31	965.93	
MW-515	S2	11/21/2016	15:31	6.96	970.44	963.48	
MW-516	S2	11/21/2016	10:15	9.68	978.83	969.15	
MW-601	WT	11/21/2016	10:13	4.71	979.47	974.76	
MW-602	WT	11/21/2016	10:12	4.88	981.94	977.06	
MW-603	WT	11/21/2016	10:49	6.29	984.42	978.13	
MW-604	S1	11/21/2016	10:21	3.72	981.77	978.05	
MW-605	S2	11/21/2016	10:03	9.54	978.62	969.08	
MW-606	S1	11/21/2016	10:34	5.12	982.87	977.75	
MW-607	WT/S1	11/21/2016	15:08	5.43	979.87	974.44	
MW-700	S1	11/21/2016	12:08	7.94	988.77	980.83	
MW-701	S1	11/21/2016	12:06	7.71	988.92	981.21	
MW-702	S1	11/21/2016	12:03	2.40	989.24	986.84	
MW-703R	S1	11/21/2016	11:49	5.22	988.84	983.62	
MW-705	S1	11/21/2016	12:10	13.30	989.01	975.71	
MW-706	WT	11/21/2016	11:47	6.06	987.67	981.61	
MW-707	S1	11/21/2016	11:45	7.62	989.06	981.44	
MW-708	S2	11/21/2016	11:32	10.25	985.24	974.99	
MW-709	S1	11/21/2016	11:44	8.56	989.10	980.54	
MW-710	WT/S1	11/21/2016	13:57	5.00	985.15	980.15	
MW-711	S1	11/21/2016	12:25	9.52	989.16	979.64	
MW-712	WT/S1	11/21/2016	10:47	3.65	982.31	978.66	
MW-715	S1	11/21/2016	10:34	8.44	982.30	973.86	
MW-716	S2	11/21/2016	10:28	11.57	982.31	970.74	
MW-717	S2	11/21/2016	11:07	8.29	979.82	971.53	
MW-718	WT/S1	11/21/2016	11:20	4.65	980.27	975.62	
MW-719	S2	11/21/2016	11:17	7.66	979.01	971.35	
MW-720	S1	11/21/2016	16:11	7.09	979.29	972.20	
MW-721	S2	11/21/2016	11:06	9.88	984.81	974.93	
MW-722R	WT	11/21/2016	11:43	5.00	987.55	982.55	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
OVERBURDEN MONITORING WELLS
NOVEMBER 2016
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
MW-723	WT	11/21/2016	0:00		984.75		Abandoned
MW-724	WT/S1	11/21/2016	16:14		979.15		Dry
MW-725	S2	11/21/2016	15:48	8.34	978.46	970.12	
MW-726	WT/S1	11/21/2016	15:53	3.89	978.70	974.81	
MW-727	S2	11/21/2016	15:51	7.67	977.84	970.17	
MW-728	WT/S1	11/21/2016	15:41	4.34	978.07	973.73	
MW-729	WT/S1	11/21/2016	11:10	4.85	977.20	972.35	
MW-730	S1	11/21/2016	0:00	4.91	982.08	977.17	
MW-731	S2	11/21/2016	11:12	7.24	977.19	969.95	
MW-732	S1	11/21/2016	10:07	5.32	978.89	973.57	
MW-733	S2	11/21/2016	16:17	9.03	978.98	969.95	
MW-734	WT/S1	11/21/2016	16:14	7.57	979.14	971.57	
MW-735	S2	11/21/2016	16:46	7.77	985.40	977.63	
MW-736	S2	11/21/2016	14:00	8.61	979.45	970.84	
MW-737	S2	11/21/2016	11:24	8.76	978.96	970.20	
MW-738	WT	11/21/2016	11:55	4.75	987.75	983.00	
MW-739	WT	11/21/2016	12:17	6.69	989.05	982.36	
MW-740	S2	11/21/2016	13:49	5.11	973.82	968.71	
MW-741	S2	11/21/2016	13:50	9.79	976.19	966.40	
MW-742	S2	11/21/2016	15:13	10.70	980.10	969.40	
MW-743	S2	11/21/2016	15:36	7.56	976.89	969.33	
MW-744	WT	11/21/2016	11:49	6.52	987.36	980.84	
MW-745	S2	11/21/2016	10:58	9.20	982.49	973.29	
MW-746	S2	11/21/2016	14:10	11.23	987.64	976.41	
MW-747R	S1	11/21/2016	11:36	9.42	988.14	978.72	
MW-748	S1	11/21/2016	10:37	6.43	981.98	975.55	
MW-749	WT	11/21/2016	10:40	3.43	981.94	978.51	
MW-750	WT	11/21/2016	14:09	5.57	985.32	979.75	
MW-753	WT	11/21/2016	12:33	4.37	985.37	981.00	
MW-754	WT	11/21/2016	12:31	5.14	985.85	980.71	
MW-757	WT	11/21/2016	11:44	4.34	988.95	984.61	
MW-758	S2	11/21/2016	0:00	5.28	982.34	977.06	
MW-759	S2	11/21/2016	13:45	7.45	976.87	969.42	
MW-760	WT	11/21/2016	11:20	6.22	984.49	978.27	
MW-764	WT/S1	11/21/2016	11:12	5.05	982.78	977.73	
MW-765	WT	11/21/2016	11:51	5.20	988.96	983.76	
MW-766	WT	11/21/2016	0:00		987.15		Inaccessible
MW-767	WT	11/21/2016	12:03	7.16	988.92	981.76	
MW-768	WT	11/21/2016	0:00		985.64		Inaccessible
MW-770	S1/S2	11/21/2016	11:29	10.20	992.62	982.42	
MW-771	WT	11/21/2016	11:32	6.52	992.54	986.02	
MW-772R	WT	11/21/2016	11:52	7.62			
MW-773	S1	11/21/2016	14:15	5.75	989.24	983.49	
MW-774	WT	11/21/2016	14:13	3.78	989.06	985.28	
MW-775	WT	11/21/2016	13:40	6.71	976.91	970.20	
MW-776	WT/S1	11/21/2016	13:54	4.98	974.01	969.03	
MW-777	S1	11/21/2016	14:14	8.58	985.65	977.07	
MW-778	S2	11/21/2016	11:14	7.93	982.78	974.85	
MW-779	S2	11/21/2016	10:11	10.72	979.40	968.68	
MW-780R	WT/S1	11/21/2016	11:36	5.72	984.63	978.91	
MW-781	WT	11/21/2016	10:47	5.22	982.06	976.84	
MW-782	WT/S1	11/21/2016	11:08	5.16	980.19	975.03	
MW-784	WT	11/21/2016	11:05	5.53	980.09	974.56	
MW-786	S2	11/21/2016	10:09	10.30	979.35	969.05	
MW-787	WT	11/21/2016	10:26	8.85	982.12	973.27	
MW-788	WT	11/21/2016	14:05	7.86	986.90	979.04	
MW-789	WT/S1	11/21/2016	14:16	4.70	982.43	977.73	
MW-790	WT	11/21/2016	11:55	4.94	988.92	983.98	
MW-792	S2	11/21/2016	11:58	12.51	989.02	976.51	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
OVERBURDEN MONITORING WELLS
NOVEMBER 2016
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
MW-793	WT/S1	11/21/2016	10:31	8.77	982.03	973.26	
MW-794	WT/S1	11/21/2016	10:45	6.39	982.07	975.68	
MW-795	WT	11/21/2016	0:00		982.12		has product
MW-796	WT/S1	11/21/2016	15:07	6.26	980.25	973.99	
MW-797	S1	11/21/2016	0:00		985.68		Abandoned
MW-798	S2	11/21/2016	0:00		982.19		has product
MW-799	S2	11/21/2016	10:50	10.52	982.09	971.57	
MW-800	S2	11/21/2016	13:36	10.15	978.91	968.76	
MW-801	S1	11/21/2016	0:00		987.12		Inaccessible
MW-802	WT	11/21/2016	12:15	5.47	988.71	983.24	
MW-804R	S1	11/21/2016	12:13	12.72	988.77	976.05	
MW-805	WT	11/21/2016	12:38	5.88	985.92	980.04	
MW-806	WT	11/21/2016	10:35	9.27	982.15	972.88	
MW-807	S2	11/21/2016	10:38	12.08	982.08	970.00	
MW-808	S2	11/21/2016	10:43	11.10	982.20	971.10	
MW-809	S1/S2	11/21/2016	10:40	9.13	982.16	973.03	
MW-810	WT	11/21/2016	15:05	8.50	980.40	971.90	
MW-811	WT	11/21/2016	10:50	4.82	982.88	978.06	
MW-812	S2	11/21/2016	15:41	7.39	969.95	962.56	
MW-813	S2	11/21/2016	15:35	8.22	975.43	967.21	
MW-814	WT/S1	11/21/2016	15:20	8.54	976.17	967.63	
MW-815	WT/S1	11/21/2016	16:58	8.32	979.30	970.98	
N001	WT	11/21/2016	0:00		985.43		Inaccessible
N002	WT	11/21/2016	0:00		985.20		Dry
N003	WT	11/21/2016	0:00		985.28		Dry
N1	WT	11/21/2016	12:36	5.60	989.43	983.83	
N10	WT	11/21/2016	0:00		982.92		Inaccessible
N11	WT	11/21/2016	9:36	2.80	981.63	978.83	
N12	WT	11/21/2016	9:51	9.30	984.82	975.52	
N13	WT	11/21/2016	9:40	4.45	982.21	977.76	
N15	WT	11/21/2016	9:44	4.67	982.47	977.80	
N16	WT	11/21/2016	0:00		982.04		Dry
N17	WT	11/21/2016	0:00		982.23		Dry
N2	WT	11/21/2016	0:00		989.37		Inaccessible
N23	WT	11/21/2016	9:46	6.05	980.57	974.52	
N25	WT	11/21/2016	0:00		985.33		Dry
N26	WT	11/21/2016	0:00		983.29		Dry
N57	WT	11/21/2016	9:38	7.60	982.50	974.90	
N62 (E2)	WT	11/21/2016	9:42	5.05			
N63	WT	11/21/2016	0:00		979.19		Dry
N64	WT	11/21/2016	13:51	7.30	978.34	971.04	
N7	WT	11/21/2016	0:00		985.19		Inaccessible
N9	WT	11/21/2016	12:23	7.05	985.38	978.33	
PZ-1	WT	11/21/2016	10:19	4.11	978.64	974.53	
PZ-10	WT	11/21/2016	10:40	6.47	983.23	976.76	
PZ-11	WT	11/21/2016	0:00		983.34		Inaccessible
PZ-12	WT	11/21/2016	14:33	3.24	982.95	979.71	
PZ-13	WT	11/21/2016	14:30	3.58	983.61	980.03	
PZ-14	WT	11/21/2016	14:47	4.30	984.21	979.91	
PZ-15	WT	11/21/2016	14:07	5.60	985.51	979.91	
PZ-16R	WT	11/21/2016	14:05	5.09	985.16	980.07	
PZ-17	WT	11/21/2016	14:36	3.14	983.49	980.35	
PZ-18	WT	11/21/2016	14:18	4.58	985.28	980.70	
PZ-19	WT	11/21/2016	10:43	6.57	983.58	977.01	
PZ-2	WT	11/21/2016	0:00		978.12		Inaccessible
PZ-20	WT	11/21/2016	10:59	6.02	982.28	976.26	
PZ-21	WT	11/21/2016	11:46	5.00	988.88	983.88	
PZ-22R	WT	11/21/2016	12:18	7.02	988.78	981.76	
PZ-23	WT	11/21/2016	12:27	8.96	989.04	980.08	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
OVERBURDEN MONITORING WELLS
NOVEMBER 2016
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
PZ-24	WT	11/21/2016	11:37	4.04	988.82	984.78	
PZ-25	WT	11/21/2016	11:39	4.28	988.71	984.43	
PZ-26	WT	11/21/2016	0:00		989.05		has product
PZ-28	WT	11/21/2016	11:42	4.39	989.02	984.63	
PZ-29R	WT	11/21/2016	12:36	8.28	988.22	979.94	
PZ-3	WT	11/21/2016	14:40		981.55		Dry
PZ-30	WT	11/21/2016	14:15	4.86	985.25	980.39	
PZ-31	WT	11/21/2016	12:21	6.70	988.98	982.28	
PZ-4	WT	11/21/2016	10:23	4.42	981.32	976.90	
PZ-5	WT	11/21/2016	10:01	5.83	979.59	973.76	
PZ-6	WT	11/21/2016	10:08	6.14	981.83	975.69	
PZ-7	WT	11/21/2016	10:05	4.73	982.66	977.93	
PZ-8	WT	11/21/2016	10:42	6.81	983.11	976.30	
PZ-9	WT	11/21/2016	10:18	5.14	982.63	977.49	
VAW-115R	WT/S1	11/21/2016	12:45	5.99	985.24	979.25	
VBW-111	WT/S1	11/21/2016	15:10	5.54	984.26	978.72	
VBW-112	S1	11/21/2016	14:25	9.02	985.44	976.42	
VBW-113	WT	11/21/2016	13:50	5.43	985.87	980.44	
VCW-110	WT/S1	11/21/2016	14:14	5.07	985.84	980.77	
VDW-108	S2	11/21/2016	10:46	12.65	983.76	971.11	
VEW-105	WT	11/21/2016	0:00		988.08		Inaccessible
VEW-106	WT	11/21/2016	11:53	5.27	987.79	982.52	
VEW-114R	WT	11/21/2016	11:39	5.37	988.86	983.49	
VFW-104	WT/S2	11/21/2016	15:03	5.20	978.74	973.54	
VPW-101	S1	11/21/2016	14:25	7.45	986.81	979.36	
VPW-102	S2	11/21/2016	15:44	4.50	966.75	962.25	
VPW-103	WT/S1	11/21/2016	11:03	6.73	982.05	975.32	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
BEDROCK MONITORING WELLS
NOVEMBER 2016
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	11/22/2016	8:38	29.89	964.96	935.07	
MW-101D	SR	11/22/2016	11:33	45.69	988.15	942.46	
MW-204D	SR	11/22/2016	11:23	35.02	994.26	959.24	
MW-301D	SR	11/22/2016	8:54	40.00	970.44	930.44	
MW-401D	SR	11/22/2016	14:09	39.62	974.57	934.95	
MW-402D	SR	11/22/2016	13:49	28.73	966.36	937.63	
MW-403D	SR	11/22/2016	13:00	35.28	977.36	942.08	
MW-404D	SR	11/22/2016	12:11	44.91	988.83	943.92	
MW-405D	SR	11/22/2016	12:22	40.50	982.45	941.95	
MW-407D	SR	11/22/2016	15:05	22.15	956.24	934.09	
MW-408D	SR	11/22/2016	15:07	22.99	957.07	934.08	
MW-409D	SR	11/22/2016	15:36	13.25	942.49	929.24	
MW-410D	SR	11/22/2016	15:14	16.71	947.63	930.92	
MW-411D	SR	11/22/2016	15:26	28.36	943.43	915.07	
MW-412D	SR	11/22/2016	15:21	28.28	949.64	921.36	
MW-413D	SR	11/22/2016	8:49	35.40	970.13	934.73	
MW-414D	SR	11/22/2016	8:52	37.10	971.91	934.81	
MW-416D	SR	11/22/2016	8:34	31.10	965.84	934.74	
MW-417D	SR	11/22/2016	8:43	30.21	964.96	934.75	
MW-418D	SR	11/22/2016	8:28	30.31	965.06	934.75	
MW-419D	SR	11/22/2016	14:32	32.75	967.40	934.65	
MW-419M	MB	11/22/2016	14:34	32.73	967.50	934.77	
MW-420D	SR	11/22/2016	14:30	30.53	965.26	934.73	
MW-420M	MB	11/22/2016	14:28	29.94	964.85	934.91	
MW-421D	SR	11/22/2016	14:36	23.72	958.50	934.78	
MW-422D	SR	11/22/2016	12:36	41.66	980.98	939.32	
MW-424D	SR	11/22/2016	12:45	40.56	979.74	939.18	
MW-432D	SR	11/22/2016	9:10	40.29	974.50	934.21	
MW-432M	MB	11/22/2016	9:11	22.84	974.90	952.06	
MW-433D	SR	11/22/2016	9:14	35.67	970.43	934.76	
MW-434D	SR	11/22/2016	9:18	30.61	965.33	934.72	
MW-435D	SR	11/22/2016	9:23	21.54	955.91	934.37	
MW-436D	SR	11/22/2016	9:26	27.95	962.37	934.42	
MW-437D	SR	11/22/2016	9:45	15.54	948.38	932.84	
MW-438D	SR	11/22/2016	10:37	37.88	972.59	934.71	
MW-439D	SR	11/22/2016	9:34	21.85	955.58	933.73	
MW-440D	SR	11/22/2016	9:40	4.91	936.70	931.79	
MW-441D	SR	11/22/2016	10:31	39.61	974.38	934.77	
MW-442D	SR	11/22/2016	11:15	40.94	975.68	934.74	
MW-443D	SR	11/22/2016	11:08	44.95	979.72	934.77	
MW-444D	SR	11/22/2016	9:58	9.19	934.18	924.99	
MW-447D	SR	11/22/2016	10:19	42.58	965.84	923.26	
MW-448D	SR	11/22/2016	10:03	13.88	935.38	921.50	
MW-449D	SR	11/22/2016	10:23	38.32	970.44	932.12	
MW-450D	SR	11/22/2016	9:54	18.45	910.51	892.06	
MW-451D	SR	11/22/2016	10:26	32.99	967.32	934.33	
MW-453D	SR	11/22/2016	10:12		923.25		Artesian

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
TOP OF ROCK MONITORING WELLS
NOVEMBER 2016
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-22	TOR	11/22/2016	14:25	9.76	967.35	957.59	
MW-101S	TOR	11/22/2016	11:31	8.79	988.04	979.25	
MW-204S	TOR	11/22/2016	12:52	16.22	993.94	977.72	
MW-301S	TOR	11/22/2016	14:01	7.07	971.03	963.96	
MW-401S	TOR	11/22/2016	14:07	16.36	974.73	958.37	
MW-402S	TOR	11/22/2016	13:55	11.11	966.62	955.51	
MW-403S	TOR	11/22/2016	12:56	10.52	976.61	966.09	
MW-404S	TOR	11/22/2016	12:13	10.26	989.50	979.24	
MW-405S	TOR	11/22/2016	12:20	8.70	982.47	973.77	
MW-407S	TOR	11/22/2016	15:03	9.90	952.99	943.09	
MW-412S	TOR	11/22/2016	15:23	15.43	949.79	934.36	
MW-415S	TOR	11/22/2016	13:32	11.21	976.78	965.57	
MW-422S	TOR	11/22/2016	12:34	13.20	981.27	968.07	
MW-423S	TOR	11/22/2016	12:42	32.61	978.96	946.35	
MW-424S	TOR	11/22/2016	12:50	24.39	980.06	955.67	
MW-425S	TOR	11/22/2016	13:27	10.95	976.09	965.14	
MW-426S	TOR	11/22/2016	13:42	5.10	967.24	962.14	
MW-427S	TOR	11/22/2016	0:00		974.54		Inaccessible
MW-428S	TOR	11/22/2016	11:53	13.48	985.43	971.95	
MW-429S	TOR	11/22/2016	12:03	10.19	985.08	974.89	
MW-430S	TOR	11/22/2016	12:32	11.98	984.76	972.78	
MW-431S	TOR	11/22/2016	11:45	9.65	982.46	972.81	
MW-445S	TOR	11/22/2016	13:19	21.87	976.07	954.20	
MW-446SR	TOR	11/22/2016	13:06	10.15	972.04	961.89	
MW-452S	TOR	11/22/2016	14:17	14.10	989.13	975.03	
MW-454S	TOR	11/22/2016	14:04	8.34	969.38	961.04	
MW-455S	TOR	11/22/2016	14:11	9.75	976.65	966.90	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
BEDROCK MONITORING WELLS
DECEMBER 2016
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	12/20/2016	10:48	28.03	964.96	936.93	
MW-101D	SR	12/20/2016	14:47	44.55	988.15	943.60	
MW-204D	SR	12/20/2016	14:55	33.84	994.26	960.42	
MW-301D	SR	12/20/2016	11:05	38.20	970.44	932.24	
MW-401D	SR	12/20/2016	15:42	37.70	974.57	936.87	
MW-402D	SR	12/20/2016	14:05	27.10	966.36	939.26	
MW-403D	SR	12/20/2016	14:26	35.28	977.36	942.08	
MW-404D	SR	12/20/2016	14:37	43.83	988.83	945.00	
MW-405D	SR	12/20/2016	15:14	39.38	982.45	943.07	
MW-407D	SR	12/20/2016	11:38	20.03	956.24	936.21	
MW-408D	SR	12/20/2016	12:02	20.85	957.07	936.22	
MW-409D	SR	12/20/2016	12:50	11.95	942.49	930.54	
MW-410D	SR	12/20/2016	12:15	14.88	947.63	932.75	
MW-411D	SR	12/20/2016	12:30	28.10	943.43	915.33	
MW-412D	SR	12/20/2016	12:23	27.29	949.64	922.35	
MW-413D	SR	12/20/2016	10:57	33.56	970.13	936.57	
MW-414D	SR	12/20/2016	11:01	35.27	971.91	936.64	
MW-416D	SR	12/20/2016	10:43	29.29	965.84	936.55	
MW-417D	SR	12/20/2016	10:54	28.37	964.96	936.59	
MW-418D	SR	12/20/2016	10:39	28.47	965.06	936.59	
MW-419D	SR	12/20/2016	13:41	30.87	967.40	936.53	
MW-419M	MB	12/20/2016	13:42	30.81	967.50	936.69	
MW-420D	SR	12/20/2016	13:49	28.51	965.26	936.75	
MW-420M	MB	12/20/2016	13:50	28.29	964.85	936.56	
MW-421D	SR	12/20/2016	13:54	21.78	958.50	936.72	
MW-422D	SR	12/20/2016	15:21	40.32	980.98	940.66	
MW-424D	SR	12/20/2016	15:29	39.18	979.74	940.56	
MW-432D	SR	12/20/2016	15:55	38.19	974.50	936.31	
MW-432M	MB	12/20/2016	15:58	22.31	974.90	952.59	
MW-433D	SR	12/20/2016	13:45	33.67	970.43	936.76	
MW-434D	SR	12/20/2016	13:58	28.53	965.33	936.80	
MW-435D	SR	12/20/2016	14:15	19.35	955.91	936.56	
MW-436D	SR	12/20/2016	14:32	25.69	962.37	936.68	
MW-437D	SR	12/20/2016	14:40	13.45	948.38	934.93	
MW-438D	SR	12/20/2016	15:45	35.75	972.59	936.84	
MW-439D	SR	12/20/2016	15:00	19.37	955.58	936.21	
MW-440D	SR	12/20/2016	14:46	3.20	936.70	933.50	
MW-441D	SR	12/20/2016	16:05	37.50	974.38	936.88	
MW-442D	SR	12/20/2016	16:40	38.88	975.68	936.80	
MW-443D	SR	12/20/2016	10:32	43.02	979.72	936.70	
MW-444D	SR	12/20/2016	15:33	7.62	934.18	926.56	
MW-447D	SR	12/20/2016	16:14	41.76	965.84	924.08	
MW-448D	SR	12/20/2016	15:28	12.02	935.38	923.36	
MW-449D	SR	12/20/2016	16:28	36.41	970.44	934.03	
MW-450D	SR	12/20/2016	17:05	17.95	910.51	892.56	
MW-451D	SR	12/20/2016	15:17	30.88	967.32	936.44	
MW-453D	SR	12/20/2016	16:18		923.25		Artesian

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
BEDROCK MONITORING WELLS
JANUARY 2017
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	1/30/2017	11:22	24.41	964.96	940.55	
MW-101D	SR	1/30/2017	14:55	41.10	988.15	947.05	
MW-204D	SR	1/30/2017	15:00	31.03	994.26	963.23	
MW-301D	SR	1/30/2017	11:41	34.54	970.44	935.90	
MW-401D	SR	1/30/2017	16:25	34.20	974.57	940.37	
MW-402D	SR	1/30/2017	15:30	23.60	966.36	942.76	
MW-403D	SR	1/30/2017	15:20	31.73	977.36	945.63	
MW-404D	SR	1/30/2017	15:08	40.40	988.83	948.43	
MW-405D	SR	1/30/2017	14:35	35.91	982.45	946.54	
MW-407D	SR	1/30/2017	12:15	16.50	956.24	939.74	
MW-408D	SR	1/30/2017	12:32	17.33	957.07	939.74	
MW-409D	SR	1/30/2017	0:00		942.49		not measured
MW-410D	SR	1/30/2017	13:15	11.72	947.63	935.91	
MW-411D	SR	1/30/2017	13:00	26.33	943.43	917.10	
MW-412D	SR	1/30/2017	12:49	25.03	949.64	924.61	
MW-413D	SR	1/30/2017	11:30	29.96	970.13	940.17	
MW-414D	SR	1/30/2017	11:37	31.66	971.91	940.25	
MW-416D	SR	1/30/2017	11:10	25.67	965.84	940.17	
MW-417D	SR	1/30/2017	11:16	24.74	964.96	940.22	
MW-418D	SR	1/30/2017	11:01	24.83	965.06	940.23	
MW-419D	SR	1/30/2017	16:05	27.17	967.40	940.23	
MW-419M	MB	1/30/2017	16:02	27.23	967.50	940.27	
MW-420D	SR	1/30/2017	15:55	25.01	965.26	940.25	
MW-420M	MB	1/30/2017	15:53	24.45	964.85	940.40	
MW-421D	SR	1/30/2017	16:13	18.24	958.50	940.26	
MW-422D	SR	1/30/2017	14:26	36.77	980.98	944.21	
MW-424D	SR	1/30/2017	14:42	35.67	979.74	944.07	
MW-432D	SR	1/30/2017	14:21	34.74	974.50	939.76	
MW-432M	MB	1/30/2017	14:19	19.93	974.90	954.97	
MW-433D	SR	1/30/2017	16:20	30.11	970.43	940.32	
MW-434D	SR	1/30/2017	16:40	25.07	965.33	940.26	
MW-435D	SR	1/30/2017	16:36	15.87	955.91	940.04	
MW-436D	SR	1/30/2017	16:12	22.19	962.37	940.18	
MW-437D	SR	1/30/2017	15:58	10.18	948.38	938.20	
MW-438D	SR	1/30/2017	14:33	32.35	972.59	940.24	
MW-439D	SR	1/30/2017	15:06	15.80	955.58	939.78	
MW-440D	SR	1/30/2017	16:05	0.06	936.70	936.64	
MW-441D	SR	1/30/2017	14:25	14.01	974.38	960.37	
MW-442D	SR	1/30/2017	16:41	35.43	975.68	940.25	
MW-443D	SR	1/30/2017	10:50	39.39	979.72	940.33	
MW-444D	SR	1/30/2017	15:43	5.98	934.18	928.20	
MW-447D	SR	1/30/2017	14:49	39.96	965.84	925.88	
MW-448D	SR	1/30/2017	15:20	9.82	935.38	925.56	
MW-449D	SR	1/30/2017	14:45	33.41	970.44	937.03	
MW-450D	SR	1/30/2017	17:02	17.02	910.51	893.49	
MW-451D	SR	1/30/2017	14:39	27.51	967.32	939.81	
MW-453D	SR	1/30/2017	14:59		923.25		Artesian

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
TOP OF ROCK MONITORING WELLS
JANUARY 2017
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-22	TOR	1/31/2017	14:44	6.91	967.35	960.44	
MW-101S	TOR	1/31/2017	12:05	5.94	988.04	982.10	
MW-204S	TOR	1/31/2017	12:55	12.82	993.94	981.12	
MW-301S	TOR	1/31/2017	10:40	5.00	971.03	966.03	
MW-401S	TOR	1/31/2017	10:33	13.38	974.73	961.35	
MW-402S	TOR	1/31/2017	10:00	9.28	966.62	957.34	
MW-403S	TOR	1/31/2017	11:17	6.57	976.61	970.04	
MW-404S	TOR	1/31/2017	11:41	6.94	989.50	982.56	
MW-405S	TOR	1/31/2017	12:00	6.31	982.47	976.16	
MW-407S	TOR	1/31/2017	14:57	3.35	952.99	949.64	
MW-412S	TOR	1/31/2017	15:17	11.71	949.79	938.08	
MW-415S	TOR	1/31/2017	11:04	8.45	976.78	968.33	
MW-422S	TOR	1/31/2017	9:45	10.47	981.27	970.80	
MW-423S	TOR	1/31/2017	9:50	28.60	978.96	950.36	
MW-424S	TOR	1/31/2017	9:35	22.11	980.06	957.95	
MW-425S	TOR	1/31/2017	10:59	7.90	976.09	968.19	
MW-426S	TOR	1/31/2017	11:29	2.57	967.24	964.67	
MW-427S	TOR	1/31/2017	0:00		974.54		Inaccessible
MW-428S	TOR	1/31/2017	12:40	11.32	985.43	974.11	
MW-429S	TOR	1/31/2017	12:43	7.55	985.08	977.53	
MW-430S	TOR	1/31/2017	13:26	10.13	984.76	974.63	
MW-431S	TOR	1/31/2017	12:10	7.31	982.46	975.15	
MW-445S	TOR	1/31/2017	10:55	18.87	976.07	957.20	
MW-446SR	TOR	1/31/2017	11:21	7.71	972.04	964.33	
MW-452S	TOR	1/31/2017	12:51	11.63	989.13	977.50	
MW-454S	TOR	1/31/2017	10:23	5.45	969.38	963.93	
MW-455S	TOR	1/31/2017	10:29	7.19	976.65	969.46	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
BEDROCK MONITORING WELLS
FEBRUARY 2017
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	2/24/2017	9:50	25.98	964.96	938.98	
MW-101D	SR	2/24/2017	13:58	42.56	988.15	945.59	
MW-204D	SR	2/24/2017	14:07	32.19	994.26	962.07	
MW-301D	SR	2/24/2017	10:07	36.12	970.44	934.32	
MW-401D	SR	2/24/2017	14:20	35.69	974.57	938.88	
MW-402D	SR	2/24/2017	12:55	25.09	966.36	941.27	
MW-403D	SR	2/24/2017	12:41	32.72	977.36	944.64	
MW-404D	SR	2/24/2017	12:33	46.87	988.83	941.96	
MW-405D	SR	2/24/2017	13:28	37.38	982.45	945.07	
MW-407D	SR	2/24/2017	10:41	18.20	956.24	938.04	
MW-408D	SR	2/24/2017	10:51	19.03	957.07	938.04	
MW-409D	SR	2/24/2017	10:28	10.07	942.49	932.42	
MW-410D	SR	2/24/2017	11:29	13.20	947.63	934.43	
MW-411D	SR	2/24/2017	11:17	26.78	943.43	916.65	
MW-412D	SR	2/24/2017	11:11	25.93	949.64	923.71	
MW-413D	SR	2/24/2017	9:55	31.53	970.13	938.60	
MW-414D	SR	2/24/2017	10:03	33.25	971.91	938.66	
MW-416D	SR	2/24/2017	9:41	27.26	965.84	938.58	
MW-417D	SR	2/24/2017	9:46	26.33	964.96	938.63	
MW-418D	SR	2/24/2017	9:35	26.42	965.06	938.64	
MW-419D	SR	2/24/2017	14:40	28.76	967.40	938.64	
MW-419M	MB	2/24/2017	14:35	28.77	967.50	938.73	
MW-420D	SR	2/24/2017	14:30	26.57	965.26	938.69	
MW-420M	MB	2/24/2017	14:27	25.96	964.85	938.89	
MW-421D	SR	2/24/2017	14:49	19.79	958.50	938.71	
MW-422D	SR	2/24/2017	13:21	38.25	980.98	942.73	
MW-424D	SR	2/24/2017	13:15	37.14	979.74	942.60	
MW-432D	SR	2/24/2017	12:32	36.35	974.50	938.15	
MW-432M	MB	2/24/2017	12:35	20.34	974.90	954.56	
MW-433D	SR	2/24/2017	14:14	31.67	970.43	938.76	
MW-434D	SR	2/24/2017	14:33	26.62	965.33	938.71	
MW-435D	SR	2/24/2017	14:26	17.49	955.91	938.42	
MW-436D	SR	2/24/2017	14:21	23.85	962.37	938.52	
MW-437D	SR	2/24/2017	14:03	11.71	948.38	936.67	
MW-438D	SR	2/24/2017	12:49	33.93	972.59	938.66	
MW-439D	SR	2/24/2017	13:32	17.70	955.58	937.88	
MW-440D	SR	2/24/2017	13:38	1.60	936.70	935.10	
MW-441D	SR	2/24/2017	12:58	14.35	974.38	960.03	
MW-442D	SR	2/24/2017	15:13	36.95	975.68	938.73	
MW-443D	SR	2/24/2017	9:30	41.02	979.72	938.70	
MW-444D	SR	2/24/2017	13:43	6.33	934.18	927.85	
MW-447D	SR	2/24/2017	13:20	40.62	965.84	925.22	
MW-448D	SR	2/24/2017	13:51	10.60	935.38	924.78	
MW-449D	SR	2/24/2017	13:11	34.80	970.44	935.64	
MW-450D	SR	2/24/2017	15:05	17.68	910.51	892.83	
MW-451D	SR	2/24/2017	13:05	29.07	967.32	938.25	
MW-453D	SR	2/24/2017	13:25		923.25		Artesian

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
OVERBURDEN MONITORING WELLS
MARCH 2017
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
HA-1	S2	3/24/2017	10:08	9.00	982.24	973.24	
HA-2	S2	3/24/2017	9:57	7.24	982.70	975.46	
HA-3	S2	3/24/2017	10:06	8.95	982.61	973.66	
HA-4	S1	3/24/2017	10:01	2.62	981.14	978.52	
HA-5	WT	3/24/2017	9:54		982.94		Dry
IF-2	WT/S1	3/24/2017	11:03	1.80	978.64	976.84	
IF-3	WT/S1	3/24/2017	11:05	1.50	978.61	977.11	
MW-130	S1	3/24/2017	12:51	2.86	986.02	983.16	
MW-131	S1	3/24/2017	13:09	3.68	985.72	982.04	
MW-132	WT/S1	3/24/2017	13:04	3.31	984.07	980.76	
MW-133	S1	3/24/2017	13:00	5.06	983.13	978.07	
MW-134	WT/S1	3/24/2017	12:57	1.86	979.78	977.92	
MW-135	WT/S1	3/24/2017	14:28	3.31	984.86	981.55	
MW-136	WT/S1	3/24/2017	0:00	4.36	985.67	981.31	Inaccessible
MW-137	S2	3/24/2017	10:24	7.19	982.24	975.05	
MW-138	S1	3/24/2017	10:26	1.29	982.24	980.95	
MW-501	S2	3/24/2017	13:18	4.02	988.73	984.71	
MW-502	S1/S2	3/24/2017	13:35	3.70	990.20	986.50	
MW-503	S1	3/24/2017	11:10	5.70	994.49	988.79	
MW-504R	S1	3/24/2017	14:38	2.47	984.42	981.95	
MW-505	S1/S2	3/24/2017	13:28	4.80	989.28	984.48	
MW-506	S1	3/24/2017	13:16	3.51	988.96	985.45	
MW-507	S1	3/24/2017	13:06	4.64	988.96	984.32	
MW-508	S2	3/24/2017	12:31	10.32	989.07	978.75	
MW-509	S2	3/24/2017	10:47	7.33	985.40	978.07	
MW-510R	S2	3/24/2017	10:14	5.58	981.51	975.93	
MW-511	S2	3/24/2017	10:43	4.89	980.06	975.17	
MW-512	WT	3/24/2017	11:34	4.34	979.15	974.81	
MW-513	S2	3/24/2017	15:00	11.50	974.84	963.34	
MW-514	S2	3/24/2017	14:59		968.31		Artesian
MW-515	S2	3/24/2017	14:48	4.15	970.44	966.29	
MW-516	S2	3/24/2017	11:34	6.75	978.83	972.08	
MW-601	WT	3/24/2017	11:28	5.29	979.47	974.18	
MW-602	WT	3/24/2017	10:00	3.43	981.94	978.51	
MW-603	WT	3/24/2017	10:35	5.80	984.42	978.62	
MW-604	S1	3/24/2017	10:20	3.01	981.77	978.76	
MW-605	S2	3/24/2017	11:20	6.48	978.62	972.14	
MW-606	S1	3/24/2017	10:22	4.31	982.87	978.56	
MW-607	WT/S1	3/24/2017	11:15	4.52	979.87	975.35	
MW-700	S1	3/24/2017	13:13	5.17	988.77	983.60	
MW-701	S1	3/24/2017	13:21	4.80	988.92	984.12	
MW-702	S1	3/24/2017	12:40	2.71	989.24	986.53	
MW-703R	S1	3/24/2017	12:48	2.24	988.84	986.60	
MW-705	S1	3/24/2017	12:32	10.59	989.01	978.42	
MW-706	WT	3/24/2017	12:28	6.17	987.67	981.50	
MW-707	S1	3/24/2017	13:03	4.35	989.06	984.71	
MW-708	S2	3/24/2017	12:32	7.57	985.24	977.67	
MW-709	S1	3/24/2017	12:48	6.94	989.10	982.16	
MW-710	WT/S1	3/24/2017	14:31	3.67	985.15	981.48	
MW-711	S1	3/24/2017	12:42	7.52	989.16	981.64	
MW-712	WT/S1	3/24/2017	10:41	2.66	982.31	979.65	
MW-715	S1	3/24/2017	10:00	6.39	982.30	975.91	
MW-716	S2	3/24/2017	9:58	7.56	982.31	974.75	
MW-717	S2	3/24/2017	10:49	5.11	979.82	974.71	
MW-718	WT/S1	3/24/2017	11:01	3.90	980.27	976.37	
MW-719	S2	3/24/2017	10:59	5.63	979.01	973.38	
MW-720	S1	3/24/2017	15:02	6.69	979.29	972.60	
MW-721	S2	3/24/2017	10:45	7.24	984.81	977.57	
MW-722R	WT	3/24/2017	11:22	1.82	987.55	985.73	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
OVERBURDEN MONITORING WELLS
MARCH 2017
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
MW-723	WT	3/24/2017	0:00		984.75		Abandoned
MW-724	WT/S1	3/24/2017	15:00		979.15		Dry
MW-725	S2	3/24/2017	14:55	5.38	978.46	973.08	
MW-726	WT/S1	3/24/2017	14:57	3.49	978.70	975.21	
MW-727	S2	3/24/2017	14:51	5.85	977.84	971.99	
MW-728	WT/S1	3/24/2017	14:53	2.42	978.07	975.65	
MW-729	WT/S1	3/24/2017	10:54	3.26	977.20	973.94	
MW-730	S1	3/24/2017	13:49	2.31	982.08	979.77	
MW-731	S2	3/24/2017	10:52	4.05	977.19	973.14	
MW-732	S1	3/24/2017	11:24	3.27	978.89	975.62	
MW-733	S2	3/24/2017	14:59	5.99	978.98	972.99	
MW-734	WT/S1	3/24/2017	14:57	6.84	979.14	972.30	
MW-735	S2	3/24/2017	12:28	5.67	985.40	979.73	
MW-736	S2	3/24/2017	13:58	5.32	979.45	974.13	
MW-737	S2	3/24/2017	11:07	5.76	978.96	973.20	
MW-738	WT	3/24/2017	11:29	2.03	987.75	985.72	
MW-739	WT	3/24/2017	12:34	2.97	989.05	986.08	
MW-740	S2	3/24/2017	14:07	1.65	973.82	972.17	
MW-741	S2	3/24/2017	14:18	7.72	976.19	968.47	
MW-742	S2	3/24/2017	11:23	7.84	980.10	972.26	
MW-743	S2	3/24/2017	14:48	4.92	976.89	971.97	
MW-744	WT	3/24/2017	12:29	5.95	987.36	981.41	
MW-745	S2	3/24/2017	10:34	6.03	982.49	976.46	
MW-746	S2	3/24/2017	12:25	8.23	987.64	979.41	
MW-747R	S1	3/24/2017	11:20	6.21	988.14	981.93	
MW-748	S1	3/24/2017	10:17	3.70	981.98	978.28	
MW-749	WT	3/24/2017	10:18	1.30	981.94	980.64	
MW-750	WT	3/24/2017	13:08	2.55	985.32	982.77	
MW-753	WT	3/24/2017	13:17	2.17	985.37	983.20	
MW-754	WT	3/24/2017	13:25	2.56	985.85	983.29	
MW-757	WT	3/24/2017	12:38	1.70	988.95	987.25	
MW-758	S2	3/24/2017	13:52	2.00	982.34	980.34	
MW-759	S2	3/24/2017	14:20	0.45	976.87	976.42	
MW-760	WT	3/24/2017	10:53	3.98	984.49	980.51	
MW-764	WT/S1	3/24/2017	10:56	3.63	982.78	979.15	
MW-765	WT	3/24/2017	13:01	2.75	988.96	986.21	
MW-766	WT	3/24/2017	0:00		987.15		Inaccessible
MW-767	WT	3/24/2017	13:40	5.43	988.92	983.49	
MW-768	WT	3/24/2017	0:00		985.64		Abandoned
MW-770	S1/S2	3/24/2017	11:18	6.73	992.62	985.89	
MW-771	WT	3/24/2017	11:16	2.83	992.54	989.71	
MW-772R	WT	3/24/2017	12:54	4.30			
MW-773	S1	3/24/2017	13:38	2.59	989.24	986.65	
MW-774	WT	3/24/2017	13:39	1.98	989.06	987.08	
MW-775	WT	3/24/2017	14:10	4.65	976.91	972.26	
MW-776	WT/S1	3/24/2017	14:03	1.18	974.01	972.83	
MW-777	S1	3/24/2017	12:52	5.40	985.65	980.25	
MW-778	S2	3/24/2017	10:58	5.25	982.78	977.53	
MW-779	S2	3/24/2017	11:32	7.32	979.40	972.08	
MW-780R	WT/S1	3/24/2017	12:34	3.46	984.63	981.17	
MW-781	WT	3/24/2017	10:21	4.48	982.06	977.58	
MW-782	WT/S1	3/24/2017	10:42	3.57	980.19	976.62	
MW-784	WT	3/24/2017	10:47	1.99	980.09	978.10	
MW-786	S2	3/24/2017	11:30	7.49	979.35	971.86	
MW-787	WT	3/24/2017	9:56	6.60	982.12	975.52	
MW-788	WT	3/24/2017	11:26	5.07	986.90	981.83	
MW-789	WT/S1	3/24/2017	12:54	2.35	982.43	980.08	
MW-790	WT	3/24/2017	12:54	2.24	988.92	986.68	
MW-792	S2	3/24/2017	12:52	9.65	989.02	979.37	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
OVERBURDEN MONITORING WELLS
MARCH 2017
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
MW-793	WT/S1	3/24/2017	10:17	7.60	982.03	974.43	
MW-794	WT/S1	3/24/2017	10:19	5.50	982.07	976.57	
MW-795	WT	3/24/2017	0:00		982.12		Has Product
MW-796	WT/S1	3/24/2017	12:19	4.14	980.25	976.11	
MW-797	S1	3/24/2017	0:00		985.68		Abandoned
MW-798	S2	3/24/2017	0:00		982.19		Has Product
MW-799	S2	3/24/2017	10:23	7.46	982.09	974.63	
MW-800	S2	3/24/2017	14:15	6.45	978.91	972.46	
MW-801	S1	3/24/2017	0:00		987.12		Inaccessible
MW-802	WT	3/24/2017	13:14	2.54	988.71	986.17	
MW-804R	S1	3/24/2017	13:12	10.12	988.77	978.65	
MW-805	WT	3/24/2017	13:30	2.96	985.92	982.96	
MW-806	WT	3/24/2017	10:02	7.96	982.15	974.19	
MW-807	S2	3/24/2017	10:04	9.94	982.08	972.14	
MW-808	S2	3/24/2017	10:25	8.18	982.20	974.02	
MW-809	S1/S2	3/24/2017	10:11	7.47	982.16	974.69	
MW-810	WT	3/24/2017	11:26	8.06	980.40	972.34	
MW-811	WT	3/24/2017	10:31	3.10	982.88	979.78	
MW-812	S2	3/24/2017	14:52	4.51	969.95	965.44	
MW-813	S2	3/24/2017	14:52	5.31	975.43	970.12	
MW-814	WT/S1	3/24/2017	11:30	5.25	976.17	970.92	
MW-815	WT/S1	3/24/2017	10:09	7.41	979.30	971.89	
N001	WT	3/24/2017	0:00		985.43		Inaccessible
N002	WT	3/24/2017	0:00		985.20		not measured
N003	WT	3/24/2017	13:30	3.85	985.28	981.43	
N1	WT	3/24/2017	13:23	5.60	989.43	983.83	
N10	WT	3/24/2017	0:00		982.92		Inaccessible
N11	WT	3/24/2017	10:39	2.54	981.63	979.09	
N12	WT	3/24/2017	10:41	9.20	984.82	975.62	
N13	WT	3/24/2017	10:35	3.82	982.21	978.39	
N15	WT	3/24/2017	10:31	4.05	982.47	978.42	
N16	WT	3/24/2017	11:36	3.00	982.04	979.04	
N17	WT	3/24/2017	11:37	3.70	982.23	978.53	
N2	WT	3/24/2017	0:00		989.37		Inaccessible
N23	WT	3/24/2017	10:29	6.27	980.57	974.30	
N25	WT	3/24/2017	13:34	4.30	985.33	981.03	
N26	WT	3/24/2017	13:36	4.60	983.29	978.69	
N57	WT	3/24/2017	10:37	7.60	982.50	974.90	
N62 (E2)	WT	3/24/2017	10:33	4.42			
N63	WT	3/24/2017	14:15	7.40	979.19	971.79	
N64	WT	3/24/2017	14:13	7.30	978.34	971.04	
N7	WT	3/24/2017	0:00		985.19		Inaccessible
N9	WT	3/24/2017	13:46	7.00	985.38	978.38	
PZ-1	WT	3/24/2017	10:04	3.31	978.64	975.33	
PZ-10	WT	3/24/2017	10:30	6.39	983.23	976.84	
PZ-11	WT	3/24/2017	0:00		983.34		Inaccessible
PZ-12	WT	3/24/2017	13:56	0.57	982.95	982.38	
PZ-13	WT	3/24/2017	13:54	2.76	983.61	980.85	
PZ-14	WT	3/24/2017	13:52	3.59	984.21	980.62	
PZ-15	WT	3/24/2017	14:05	4.45	985.51	981.06	
PZ-16R	WT	3/24/2017	14:09	4.83	985.16	980.33	
PZ-17	WT	3/24/2017	14:00	2.59	983.49	980.90	
PZ-18	WT	3/24/2017	14:24	3.24	985.28	982.04	
PZ-19	WT	3/24/2017	10:33	5.66	983.58	977.92	
PZ-2	WT	3/24/2017	0:00		978.12		Inaccessible
PZ-20	WT	3/24/2017	10:42	2.71	982.28	979.57	
PZ-21	WT	3/24/2017	12:45	1.90	988.88	986.98	
PZ-22R	WT	3/24/2017	13:09	5.20	988.78	983.58	
PZ-23	WT	3/24/2017	12:40	4.16	989.04	984.88	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
OVERBURDEN MONITORING WELLS
MARCH 2017
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
PZ-24	WT	3/24/2017	12:30	1.67	988.82	987.15	
PZ-25	WT	3/24/2017	12:33	1.79	988.71	986.92	
PZ-26	WT	3/24/2017	0:00		989.05		Has Product
PZ-28	WT	3/24/2017	12:35	3.07	989.02	985.95	
PZ-29R	WT	3/24/2017	13:30	2.05	988.22	986.17	
PZ-3	WT	3/24/2017	12:58	3.00	981.55	978.55	
PZ-30	WT	3/24/2017	0:00	4.73	985.25	980.52	
PZ-31	WT	3/24/2017	12:36	2.82	988.98	986.16	
PZ-4	WT	3/24/2017	10:02	2.91	981.32	978.41	
PZ-5	WT	3/24/2017	11:18	3.10	979.59	976.49	
PZ-6	WT	3/24/2017	10:05	4.09	981.83	977.74	
PZ-7	WT	3/24/2017	10:15	4.13	982.66	978.53	
PZ-8	WT	3/24/2017	0:00	4.61	983.11	978.50	
PZ-9	WT	3/24/2017	10:10	3.73	982.63	978.90	
VAW-115R	WT/S1	3/24/2017	13:22	3.18	985.24	982.06	
VBW-111	WT/S1	3/24/2017	13:02	4.14	984.26	980.12	
VBW-112	S1	3/24/2017	13:05	6.28	985.44	979.16	
VBW-113	WT	3/24/2017	13:47	4.86	985.87	981.01	
VCW-110	WT/S1	3/24/2017	0:00	4.35	985.84	981.49	
VDW-108	S2	3/24/2017	10:37	8.67	983.76	975.09	
VEW-105	WT	3/24/2017	0:00		988.08		Inaccessible
VEW-106	WT	3/24/2017	11:27	2.52	987.79	985.27	
VEW-114R	WT	3/24/2017	11:25	2.86	988.86	986.00	
VFW-104	WT/S2	3/24/2017	10:56	2.42	978.74	976.32	
VPW-101	S1	3/24/2017	13:13	3.05	986.81	983.76	
VPW-102	S2	3/24/2017	14:54	2.22	966.75	964.53	
VPW-103	WT/S1	3/24/2017	10:38	3.26	982.05	978.79	

ATTACHMENT A
MONTHLY GROUNDWATER ELEVATION DATA
BEDROCK MONITORING WELLS
MARCH 2017
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	3/29/2017	9:34	20.53	964.96	944.43	
MW-101D	SR	3/29/2017	10:05	38.47	988.15	949.68	
MW-204D	SR	3/29/2017	10:09	29.00	994.26	965.26	
MW-301D	SR	3/29/2017	9:53	30.67	970.44	939.77	
MW-401D	SR	3/29/2017	11:17	30.43	974.57	944.14	
MW-402D	SR	3/29/2017	10:40	20.17	966.36	946.19	
MW-403D	SR	3/29/2017	10:26	28.80	977.36	948.56	
MW-404D	SR	3/29/2017	10:18	37.78	988.83	951.05	
MW-405D	SR	3/29/2017	11:01	33.20	982.45	949.25	
MW-407D	SR	3/29/2017	13:03	12.69	956.24	943.55	
MW-408D	SR	3/29/2017	13:10	13.51	957.07	943.56	
MW-409D	SR	3/29/2017	12:35	5.09	942.49	937.40	
MW-410D	SR	3/29/2017	13:17	8.29	947.63	939.34	
MW-411D	SR	3/29/2017	13:31	24.74	943.43	918.69	
MW-412D	SR	3/29/2017	13:25	22.67	949.64	926.97	
MW-413D	SR	3/29/2017	9:44	26.10	970.13	944.03	
MW-414D	SR	3/29/2017	9:49	27.80	971.91	944.11	
MW-416D	SR	3/29/2017	9:29	21.77	965.84	944.07	
MW-417D	SR	3/29/2017	9:40	20.87	964.96	944.09	
MW-418D	SR	3/29/2017	9:24	20.96	965.06	944.10	
MW-419D	SR	3/29/2017	11:47	23.37	967.40	944.03	
MW-419M	MB	3/29/2017	11:44	23.20	967.50	944.30	
MW-420D	SR	3/29/2017	11:38	21.23	965.26	944.03	
MW-420M	MB	3/29/2017	11:35	19.81	964.85	945.04	
MW-421D	SR	3/29/2017	11:55	14.37	958.50	944.13	
MW-422D	SR	3/29/2017	10:55	33.75	980.98	947.23	
MW-424D	SR	3/29/2017	11:07	32.61	979.74	947.13	
MW-432D	SR	3/29/2017	10:15	30.85	974.50	943.65	
MW-432M	MB	3/29/2017	10:19	18.55	974.90	956.35	
MW-433D	SR	3/29/2017	10:24	26.17	970.43	944.26	
MW-434D	SR	3/29/2017	10:30	21.14	965.33	944.19	
MW-435D	SR	3/29/2017	10:38	11.88	955.91	944.03	
MW-436D	SR	3/29/2017	10:45	18.19	962.37	944.18	
MW-437D	SR	3/29/2017	11:00	6.44	948.38	941.94	
MW-438D	SR	3/29/2017	12:10	28.51	972.59	944.08	
MW-439D	SR	3/29/2017	11:34	11.51	955.58	944.07	
MW-440D	SR	3/29/2017	0:00		936.70		Artesian
MW-441D	SR	3/29/2017	12:03	30.29	974.38	944.09	
MW-442D	SR	3/29/2017	10:10	31.48	975.68	944.20	
MW-443D	SR	3/29/2017	12:20	35.60	979.72	944.12	
MW-444D	SR	3/29/2017	11:21	2.08	934.18	932.10	
MW-447D	SR	3/29/2017	11:45	37.86	965.84	927.98	
MW-448D	SR	3/29/2017	11:28	7.80	935.38	927.58	
MW-449D	SR	3/29/2017	11:50	30.01	970.44	940.43	
MW-450D	SR	3/29/2017	11:16	16.41	910.51	894.10	
MW-451D	SR	3/29/2017	11:55	23.79	967.32	943.53	
MW-453D	SR	3/29/2017	0:00		923.25		Artesian

APPENDIX B

Data Usability Summary Reports

Data Usability Summary Report (DUSR)
MAHLE Vandalia, Ohio - Quarter 4, 2016 - Surface Water
Analytical Laboratory: TestAmerica, Inc. - North Canton, OH
Sample Delivery Group # 240-72665-1

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (EPA 540-R-2016-002)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID	Sample ID	Sample ID
605-112816-1520	732-112816-1630	4479-112916-0001
607-112816-1345	810-112916-1020	4479-112916-0002
717-112916-1102	4479-112816-0001	4479-112916-0003
725-112916-1610	4479-112816-0002	4479-112916-0004
731-112916-1430	4479-112816-0003	4479-112916-0005

Project Samples were analyzed according to the following analytical methods:

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Field Duplicate Sample Analysis
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

Project-specific Reporting Limits

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP). If a QAPP does not exist, all dilutions were still reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below. In cases when multiple dilutions are reported per sample, the reviewer chose the lowest dilution with results still within the calibration range and rejected the alternative result. No qualification of the data is recommended.

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the continuing calibration verification (CCV) standards for the following target compound(s) exhibited a percent drift (%D) greater than the acceptance criteria of 25% and/or a RRF less than 0.05:

Inst.	Date / Time	Target Analyte(s)	%D	RRF	Affected Sample(s)	Corrective Action
A3UX10	12/05/16 13:10	Dichlorodifluoromethane	52.60	0.42	All samples run 12/5	See Action #1 Below
		Bromomethane	-36.90	0.09	All samples run 12/5	See Action #1 Below
		Chloroethane	-53.00	0.09	All samples run 12/5	See Action #1 Below
A3UX10	12/06/16 10:57	Chloroethane	-48.70	0.10	All samples run 12/6	See Action #1 Below

Action #1

Positive results are qualified "J", estimated and non-detected analytes as "UJ", estimated detection limit.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is found to be influenced by the amount found in any associated blank. USEPA method specific guidelines are followed when evaluating any detect found in a blank. Common laboratory contaminants include methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters. Target analytes were not detected in associated blank samples (trip, equipment, or method) collected, prepared and/or analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Qualifiers
4479-112816-0001 Trip Blank	Acetone	7.0 J ug/L	None, all samples ND.	None.
4479-112916-0001 Trip Blank	Acetone	4.6 J ug/L	None, all samples ND.	None.
4479-112816-0003 Equipment Blank	All VOCs	ND	None, EB is clean.	None.
4479-112916-0004 Equipment Blank	All VOCs	ND	None, EB is clean.	None.
4479-112916-0005 Equipment Blank	All VOCs	ND	None, EB is clean.	None.
4479-112816-0002 Field Blank	All VOCs	ND	None, FB is clean.	None.
4479-112916-0002 Field Blank	All VOCs	ND	None, FB is clean.	None.

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria. No qualification of the data is recommended.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Field Duplicate Sample Analysis

The overall variability attributable to the sampling procedure, sample matrix, and laboratory procedures, was evaluated by assessing the relative percent difference (RPD) data from field duplicate samples. All calculated RPD values were within matrix specific data quality objectives, with the exception of results qualified “J” as shown in the table(s) below:

Target Analyte(s)	Original Sample ID.	FD Sample ID.	%RPD	Flag Original and FD sample results with:
	731-112916-1430	4479-112916-0003		
All VOCs	ND	ND	NA	None, Both ND.

Action:

If the sample matrix is solid and the %RPD is greater than 50%, the original sample results are qualified "J". If the sample matrix is water or air and the %RPD is greater than 35%, the original sample results are qualified "J".

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Date: 2/10/2017

Data Usability Summary Report (DUSR)
MAHLE Vandalia, Ohio - Quarter 4, 2016 - Surface Water
Analytical Laboratory: TestAmerica, Inc. - North Canton, OH
Sample Delivery Group # 240-72770-1

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (EPA 540-R-2016-002)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID	Sample ID	Sample ID
413D-120116-1510	775-120116-0945	4479-113016-0002
418D-120116-1520	776-113016-1535	9119-113016-0003
425S-120116-1220	800-120116-1315	4479-120116-0001
740-113016-1440	806-113016-1227	4479-120116-0002
741-120116-1020	814-113016-1511	4479-120116-0003
743-113016-1220	815-113016-1025	4479-120116-0004
759-120116-1110	4479-113016-0001	9119-120116-0001

Project Samples were analyzed according to the following analytical methods:

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Field Duplicate Sample Analysis
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

Project-specific Reporting Limits

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP). If a QAPP does not exist, all dilutions were still reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below. In cases when multiple dilutions are reported per sample, the reviewer chose the lowest dilution with results still within the calibration range and rejected the alternative result.

During the analysis of VOCs (EPA Method 8260B) the reporting limits were greater than the Project-specific Quality Assurance Project Plan (QAPP) criteria. The following project sample data as specified in the following table were affected:

Target Analyte(s)	QAPP RL	Sample ID	Lab Package RL	Reason	Action
All VOCs	1x	806-113016-1227	~714.3x	Abundance of non-trgt analyte	No further action
All VOCs	1x	425S-120116-1220	20x	Abundance of non-trgt analyte	No further action
All VOCs	1x	418D-120116-1520	5x	Abundance of non-trgt analyte	No further action
All VOCs	1x	759-120116-1110	2x	Abundance of non-trgt analyte	No further action

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the initial calibration standards for the following target compound(s) exhibited a percent relative standard deviation (%RSD) greater than the acceptance criteria of 30% and/or a RRF less than 0.05:

Inst.	Date / Time	Target Analyte(s)	%RSD	RRF	Affected Sample(s)	Corrective Action
A3UX11	11/08/16 10:01	Bromoform	NA	RRF < 0.1	All Project Samples	See Action #2 Below

Action #2

Positive results are qualified "J", estimated and non-detected analytes as "R", rejected.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the continuing calibration verification (CCV) standards for the following target compound(s) exhibited a percent drift (%D) greater than the acceptance criteria of 25% and/or a RRF less than 0.05:

Inst.	Date / Time	Target Analyte(s)	%D	RRF	Affected Sample(s)	Corrective Action
A3UX11	11/08/16 12:18	Acrolein	**51.30**	0.04	None, analyte not reported.	None.
A3UX11	12/06/16 10:36	Bromomethane	**-33.80**	0.07	**Analyzed on 12/6**	See Action #1 Below
		Chloroethane	**-27.10**	0.08	**Analyzed on 12/6**	See Action #1 Below
		Hexane	**-28.10**	0.05	None, not reported.	None.
		Methyl cyclohexane	**-26.10**	0.26	**Analyzed on 12/6**	See Action #1 Below
A3UX11	12/07/16 10:55	Bromomethane	**-40.70**	0.06	**Analyzed on 12/7**	See Action #1 Below
		Chloroethane	**-34.00**	0.08	**Analyzed on 12/7**	See Action #1 Below

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is found to be influenced by the amount found in any associated blank. USEPA method specific guidelines are followed when evaluating any detect found in a blank. Common laboratory contaminants include methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters. Target analytes were not detected in associated blank samples (trip, equipment, or method) collected, prepared and/or analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Qualifiers
4479-113016-0001 Trip Blank	All VOCs	ND	None, TB is clean.	None.
4479-120116-0001 Trip Blank	Acetone	2.8 J ug/L	None, samples all ND.	None.
4479-120116-0002 Field Blank	Xylenes (total)	0.25 J ug/L	**815-113016-1025**	R
4479-113016-0002 Equipment Blank	All VOCs	ND	None, EB is clean.	None.
9119-113016-0003 Equipment Blank	All VOCs	ND	None, EB is clean.	None.
9119-120116-0001 Equipment Blank	All VOCs	ND	None, EB is clean.	None.
4479-120116-0004 Equipment Blank	All VOCs	ND	None, EB is clean.	None.

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
775-120116-0945	MSD	Cyclohexane	36 - 144	85	**21**	None, sample is ND.
258434	MSD	Methyl cyclohexane	31 - 139	81	**29**	None, sample is ND.
	MSD	1,1,2-Trichloro-1,2,2-trifluoroethane	41 - 149	88	**29**	None, sample is ND.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Field Duplicate Sample Analysis

The overall variability attributable to the sampling procedure, sample matrix, and laboratory procedures, was evaluated by assessing the relative percent difference (RPD) data from field duplicate samples. All calculated RPD values were within matrix specific data quality objectives, with the exception of results qualified "J" as shown in the table(s) below:

Target Analyte(s)	Original Sample ID.	FD Sample ID.	%RPD	Flag Original and FD sample results with:
	800-120116-1315	4479-120116-0003		
All VOCs	ND	ND	NA	None, Both ND.

Action:

If the sample matrix is solid and the %RPD is greater than 50%, the original sample results are qualified "J". If the sample matrix is water or air and the %RPD is greater than 35%, the original sample results are qualified "J".

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Date: 2/10/2017

Data Usability Summary Report (DUSR)
MAHLE Vandalia, Ohio - Quarter 4, 2016 - Surface Water
Analytical Laboratory: TestAmerica, Inc. - North Canton, OH
Sample Delivery Group # 240-72796-1

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (EPA 540-R-2016-002)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID	Sample ID
416D-120216-1010	4479-120216-0001
417D-120216-1130	4479-120216-0002
420D-120216-1205	9119-120216-0001
420M-120216-1235	9119-120216-0002
730-120216-1025	9119-120216-0003

Project Samples were analyzed according to the following analytical methods:

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Field Duplicate Sample Analysis
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

Project-specific Reporting Limits

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP). If a QAPP does not exist, all dilutions were still reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below. In cases when multiple dilutions are reported per sample, the reviewer chose the lowest dilution with results still within the calibration range and rejected the alternative result.

During the analysis of VOCs (EPA Method 8260B) the reporting limits were greater than the Project-specific Quality Assurance Project Plan (QAPP) criteria. The following project sample data as specified in the following table were affected:

Target Analyte(s)	QAPP RL	Sample ID	Lab Package RL	Reason	Action
All VOCs	1x	420M-120216-1235	25x	Abundance of non-trgt analyte	No further action

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the initial calibration standards for the following target compound(s) exhibited a percent relative standard deviation (%RSD) greater than the acceptance criteria:

Inst.	Date / Time	Target Analyte(s)	%RSD	RRF	Affected Sample(s)	Corrective Action
A3UX11	11/08/16 10:01	Bromoform	NA	RRF < 0.1	All Project Samples	See Action #2 Below

Action #2

Positive results are qualified "J", estimated and non-detected analytes as "R", rejected.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the continuing calibration verification (CCV) standards for the following target compound(s) exhibited a percent drift (%D) greater than the acceptance criteria of 25% and/or a RRF less than 0.05:

Inst.	Date / Time	Target Analyte(s)	%D	RRF	Affected Sample(s)	Corrective Action
A3UX11	11/08/16 12:18	Acrolein	**51.30**	0.04	None, analyte not reported.	None.
A3UX11	12/06/16 10:36	Bromomethane	**-33.80**	0.07	**Analyzed on 12/6**	See Action #1 Below
		Chloroethane	**-27.10**	0.08	**Analyzed on 12/6**	See Action #1 Below
		Hexane	**-28.10**	0.05	None, not reported.	None.
		Methyl cyclohexane	**-26.10**	0.26	**Analyzed on 12/6**	See Action #1 Below

Action #1

Positive results are qualified "J", estimated and non-detected analytes as "UJ", estimated detection limit.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is found to be influenced by the amount found in any associated blank. USEPA method specific guidelines are followed when evaluating any detect found in a blank. Common laboratory contaminants include methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters. Target analytes were not detected in associated blank samples (trip, equipment, or method) collected, prepared and/or analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Qualifiers
4479-120216-0001	Acetone	7.1 J ug/L	None, all samples ND.	None.
Trip Blank	Methylene chloride	0.55 J ug/L	None, all samples ND.	None.
4479-120216-0002 Equipment Blank	All VOCs	ND	None, EB is clean.	None.
9119-120216-0003 Equipment Blank	All VOCs	ND	None, EB is clean.	None.

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
420M-120216-1235	MS/MSD	All VOCs	Various	Within	Within	None, all within limits.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Field Duplicate Sample Analysis

The overall variability attributable to the sampling procedure, sample matrix, and laboratory procedures, was evaluated by assessing the relative percent difference (RPD) data from field duplicate samples. All calculated RPD values were within matrix specific data quality objectives, with the exception of results qualified "J" as shown in the table(s) below:

Target Analyte(s)	Original Sample ID. 420D-120216-1205	FD Sample ID. 9119-120216-0002	%RPD	Flag Original and FD sample results with:
cis-1,2-Dichloroethene	39 ug/L	41 ug/L	5%	None, RPD < 35%
trans-1,2-Dichloroethene	0.43 J ug/L	1.4 U ug/L	NA	None, Abs. Diff < RL
Benzene	1.1 J ug/L	1.2 J ug/L	NA	None, Abs. Diff < RL
Vinyl chloride	9.7 ug/L	10 ug/L	3%	None, RPD < 35%
1,1-Dichloroethane	0.4 J ug/L	0.39 J ug/L	NA	None, Abs. Diff < RL
Trichloroethene	1.9 ug/L	1.9 ug/L	NA	None, Abs. Diff < RL

Target Analyte(s)	Original Sample ID. 730-120216-1025	FD Sample ID. 9119-120216-0001	%RPD	Flag Original and FD sample results with:
cis-1,2-Dichloroethene	17 ug/L	18 ug/L	6%	None, RPD < 35%
trans-1,2-Dichloroethene	0.8 J ug/L	0.85 J ug/L	NA	None, Abs. Diff < RL
Trichloroethene	5.1 ug/L	5 ug/L	2%	None, RPD < 35%

Action:

If the sample matrix is solid and the %RPD is greater than 50%, the original sample results are qualified "J". If the sample matrix is water or air and the %RPD is greater than 35%, the original sample results are qualified "J".

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Date: 2/13/2017

Data Usability Summary Report (DUSR)
MAHLE Vandalia, Ohio - Quarter 4, 2016 - Surface Water
Analytical Laboratory: TestAmerica, Inc. - North Canton, OH
Sample Delivery Group # 240-73014-1

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (EPA 540-R-2016-002)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID	Sample ID
B005-120716-1150	E001-120716-1250
B006-120716-1155	F001-120716-1450
C001-120716-1215	G004-120716-1535
D001-120716-1240	4226-120716-0001

Project Samples were analyzed according to the following analytical methods:

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

Project-specific Reporting Limits

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP). If a QAPP does not exist, all dilutions were still reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below. In cases when multiple dilutions are reported per sample, the reviewer chose the lowest dilution with results still within the calibration range and rejected the alternative result.

During the analysis of VOCs (EPA Method 8260B) the reporting limits were greater than the Project-specific Quality Assurance Project Plan (QAPP) criteria. The following project sample data as specified in the following table were affected:

Target Analyte(s)	QAPP RL	Sample ID	Lab Package RL	Reason	Action
All VOCs	1x	D001-120716-1240	5x	Abundance of non-trgt analyte	No further action
All VOCs	1x	E001-120716-1250	5x	Abundance of non-trgt analyte	No further action

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the continuing calibration verification (CCV) standards for the following target compound(s) exhibited a percent drift (%D) greater than the acceptance criteria of 25% and/or a RRF less than 0.05:

Inst.	Date / Time	Target Analyte(s)	%D	RRF	Affected Sample(s)	Corrective Action
A3UX10	12/16/16 11:41	Bromomethane	**-55.00**	0.06	**Analyzed on 12/16**	See Action #1 Below
		Chloroethane	**-70.10**	0.06	**Analyzed on 12/16**	See Action #1 Below
A3UX10	12/18/16 12:43	Bromomethane	**-42.80**	0.08	**Analyzed on 12/18**	See Action #1 Below
		Chloroethane	**-59.20**	0.08	**Analyzed on 12/18**	See Action #1 Below
		Hexane	**20.50**	0.07	None, not reported.	None.

Action #1

Positive results are qualified "J", estimated and non-detected analytes as "UJ", estimated detection limit.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is found to be influenced by the amount found in any associated blank. USEPA method specific guidelines are followed when evaluating any detect found in a blank. Common laboratory contaminants include methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters. Target analytes were not detected in associated blank samples (trip, equipment, or method) collected, prepared and/or analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Qualifiers
4226-120716-0001 Trip Blank	Acetone	8.9 J ug/L	None, all samples ND.	None.

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
Precision Missing	LCSD	All VOCs	Various	Present	Absent	This report is not supported by any precision (RPD) data. Neither MSD, LCSD, or duplicate was analyzed.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Date: 2/13/2017

Data Usability Summary Report (DUSR)
MAHLE Vandalia, Ohio - Quarter 4, 2016 - Surface Water
Analytical Laboratory: TestAmerica, Inc. - North Canton, OH
Sample Delivery Group # 240-73893-1

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (EPA 540-R-2016-002)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
SW01-122916-1350
SW04-122916-1335
4212-122916-0001

Project Samples were analyzed according to the following analytical methods:

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

Project-specific Reporting Limits

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP). If a QAPP does not exist, all dilutions were still reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below. In cases when multiple dilutions are reported per sample, the reviewer chose the lowest dilution with results still within the calibration range and rejected the alternative result.

During the analysis of VOCs (EPA Method 8260B) the reporting limits were greater than the Project-specific Quality Assurance Project Plan (QAPP) criteria. The following project sample data as specified in the following table were affected:

Target Analyte(s)	QAPP RL	Sample ID	Lab Package RL	Reason	Action
All VOCs	1x	SW04-122916-1335	~6.67x	Abundance of non-trgt analyte	No further action

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the initial calibration standards for the following target compound(s) exhibited a percent relative standard deviation (%RSD) greater than the acceptance criteria:

Inst.	Date / Time	Target Analyte(s)	%RSD	RRF	Affected Sample(s)	Corrective Action
A3UX17	12/09/16 17:03	Bromoform	**24.00**	**RRF < 0.1**	All Project Samples	See Action #2 Below.
		Bromodichloromethane	9.60	**RRF < 0.3**	All Project Samples	See Action #2 Below.
		cis-1,3-Dichloropropene	NA	**RRF < 0.3**	All Project Samples	See Action #2 Below.

Action #2
Positive results are qualified "J", estimated and non-detected analytes as "R", rejected.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the continuing calibration verification (CCV) standards for the following target compound(s) exhibited a percent drift (%D) greater than the acceptance criteria:

Inst.	Date / Time	Target Analyte(s)	%D	RRF	Affected Sample(s)	Corrective Action
A3UX17	12/09/16 19:16	1,2,4-Trichlorobenzene	**-31.70**	0.39	None, not reported.	None.
		1,2,3-Trichlorobenzene	**-41.10**	0.57	All Project Samples	See Action #1 Below
A3UX17	01/05/17 11:08	Chloroethane	**-43.00**	0.08	**Analyzed on 01/05**	See Action #1 Below
		1,2,4-Trichlorobenzene	**-39.80**	0.61	**Analyzed on 01/05**	See Action #1 Below
		1,2,3-Trichlorobenzene	**-48.30**	0.51	None, not reported.	None.
		Bromodichloromethane	-2.40	**RRF < 0.3**	**Analyzed on 01/05**	See Action #2 Below.
A3UX17	01/06/17 11:52	Chloroethane	**-51.50**	0.06	**Analyzed on 01/06**	See Action #1 Below
		1,2,4-Trichlorobenzene	**-44.20**	0.56	**Analyzed on 01/06**	See Action #1 Below
		Naphthalene	**-51.60**	1.29	None, not reported.	None.
		1,2,3-Trichlorobenzene	**-53.80**	0.46	None, not reported.	None.

Action #1
Positive results are qualified "J", estimated and non-detected analytes as "UJ", estimated detection limit.
Action #2
Positive results are qualified "J", estimated and non-detected analytes as "R", rejected.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is found to be influenced by the amount found in any associated blank. USEPA method specific guidelines are followed when evaluating any detect found in a blank. Common laboratory contaminants include methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters. Target analytes were not detected in associated blank samples (trip, equipment, or method) collected, prepared and/or analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Qualifiers
4212-122916-0001 Trip Blank	Acetone	17.0 ug/L	None, samples all ND.	None.

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
Precision Missing	LCSD	All VOCs	Various	Present	Absent	This report is not supported by any precision (RPD) data. Neither MSD, LCSD, or duplicate was analyzed.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Date: 2/13/2017

Data Usability Summary Report (DUSR)
MAHLE Vandalia SW
Analytical Laboratory: TestAmerica, Inc. - North Canton, OH
Sample Delivery Group # 240-76012-1

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-08-01) and/or
  USEPA National Functional Guidelines for Low Concentration Organic Data Review (EPA 540-R-00-006)
- USEPA Region 1 "New England Data Validation Functional Guidelines for
  Evaluating Environmental Analyses", Revised December 1996

and method protocol criteria where applicable as prescribed by “Test Methods for Evaluating Solid Waste”, SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
SW04-022317-1510
SW01-022317-1525
4212-022317-0001

Project Samples were analyzed according to the following analytical methods:

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B/624	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

Project-specific Reporting Limits

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP). No qualification of the data is recommended.

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. Nc Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the continuing calibration verification (CCV) standards for the following target compound(s) exhibited a percent drift (%D) greater than the acceptance criteria of 25% and/or a RRF less than 0.05:

Inst.	Date / Time	Target Analyte(s)	%D	RRF	Affected Sample(s)	Corrective Action
A3UX10	03/01/17 11:34	2-Hexanone	51.00	0.28	All Project Samples	See Action #1 Below

Action #1
Positive results are qualified "J", estimated and non-detected analytes as "UJ", estimated detection limit.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target analytes were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples. No qualification of the data is recommended.

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
SW04-022317-1510	LCS	2-Hexanone	56 - 124	130		SW04-022317-1510

Action:

If the LCS %R is greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the LCS %R is less than the lower acceptance limit associated target analyte positive results are qualified "J" and non-detects are qualified "R". If the MS/MSD is from a project sample and the %R greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the MS/MSD %R is >10%, but less than the lower acceptance limit, associated analyte positive results are qualified "J" and non-detects are qualified "UJ". If the MS/MSD %R is less than 10% associated target analyte positive results are qualified "J" and non-detects are qualified "R". MS/MSD qualifiers are only applied to affected samples of the same matrix. If the MS/MSD is a LAB sample do not qualify project samples.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

APPENDIX C

Groundwater Migration Control System Monthly Discharge Reports

VANDALIA-MIGRATION CONTROL
DAILY DISCHARGE REPORT-October 2016

DATE	AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND	DAILY DISCHARGE (GPD)
10/1/2016	32.2	46418
10/2/2016	32.1	46281
10/3/2016	31.2	44919
10/4/2016	31.0	44642
10/5/2016	30.9	44556
10/6/2016	31.6	45481
10/7/2016	32.1	46262
10/8/2016	32.0	46043
10/9/2016	31.9	45930
10/10/2016	31.8	45769
10/11/2016	31.8	45720
10/12/2016	31.7	45716
10/13/2016	31.1	44773
10/14/2016	0.0	0
10/15/2016	0.0	0
10/16/2016	0.0	0
10/17/2016	0.0	0
10/18/2016	0.0	0
10/19/2016	0.0	0
10/20/2016	0.0	0
10/21/2016	0.0	0
10/22/2016	0.0	0
10/23/2016	0.0	0
10/24/2016	0.0	0
10/25/2016	0.0	0
10/26/2016	0.0	0
10/27/2016	0.0	0
10/28/2016	0.0	0
10/29/2016	0.0	0
10/30/2016	0.0	0
10/31/2016	0.0	0

TOTAL DISCHARGE (gal) = 592508
AVERAGE DAILY DISCHARGE (gal/day)= 19113

VANDALIA-MIGRATION CONTROL
DAILY DISCHARGE REPORT-November 2016

DATE	AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND	DAILY DISCHARGE (GPD)
11/1/2016	0.0	0
11/2/2016	0.0	0
11/3/2016	13.7	19735
11/4/2016	30.5	43919
11/5/2016	30.2	43555
11/6/2016	29.9	43112
11/7/2016	29.4	42349
11/8/2016	29.8	42902
11/9/2016	29.5	42532
11/10/2016	29.3	42173
11/11/2016	28.9	41624
11/12/2016	28.7	41372
11/13/2016	28.8	41463
11/14/2016	28.8	41540
11/15/2016	28.9	41603
11/16/2016	28.9	41628
11/17/2016	30.3	43570
11/18/2016	29.6	42613
11/19/2016	30.1	43353
11/20/2016	29.6	42648
11/21/2016	29.6	42687
11/22/2016	29.6	42625
11/23/2016	30.4	43795
11/24/2016	30.5	43983
11/25/2016	29.9	43040
11/26/2016	29.9	43000
11/27/2016	29.9	43060
11/28/2016	32.9	47318
11/29/2016	32.7	47061
11/30/2016	31.4	45145

TOTAL DISCHARGE (gal) = 1183404
AVERAGE DAILY DISCHARGE (gal/day)= 39447

VANDALIA-MIGRATION CONTROL
DAILY DISCHARGE REPORT-December 2016

DATE	AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND	DAILY DISCHARGE (GPD)
12/1/2016	30.8	44358
12/2/2016	30.0	43221
12/3/2016	30.2	43535
12/4/2016	32.2	46381
12/5/2016	30.8	44319
12/6/2016	36.1	51961
12/7/2016	32.4	46634
12/8/2016	31.3	45085
12/9/2016	30.7	44193
12/10/2016	30.4	43811
12/11/2016	31.6	45447
12/12/2016	31.1	44725
12/13/2016	30.1	43298
12/14/2016	30.3	43703
12/15/2016	29.8	42895
12/16/2016	29.7	42744
12/17/2016	38.6	55514
12/18/2016	40.9	58909
12/19/2016	32.8	47224
12/20/2016	31.0	44705
12/21/2016	30.4	43707
12/22/2016	29.9	43085
12/23/2016	30.1	43296
12/24/2016	32.2	46424
12/25/2016	29.7	42792
12/26/2016	31.1	44846
12/27/2016	33.5	48241
12/28/2016	30.0	43255
12/29/2016	30.5	43977
12/30/2016	29.7	42791
12/31/2016	29.3	42156

TOTAL DISCHARGE (gal) = 1407233
AVERAGE DAILY DISCHARGE (gal/day)= 45395

VANDALIA-MIGRATION CONTROL
DAILY DISCHARGE REPORT-January 2017

DATE	AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND	DAILY DISCHARGE (GPD)
1/1/2017	28.9	41660
1/2/2017	29.0	41689
1/3/2017	33.6	48341
1/4/2017	31.7	45614
1/5/2017	29.5	42454
1/6/2017	28.3	40706
1/7/2017	27.7	39822
1/8/2017	27.3	39379
1/9/2017	27.3	39360
1/10/2017	29.7	42827
1/11/2017	30.7	44138
1/12/2017	40.3	58087
1/13/2017	38.6	55523
1/14/2017	34.2	49276
1/15/2017	32.1	46162
1/16/2017	32.3	46514
1/17/2017	35.4	50996
1/18/2017	33.0	47516
1/19/2017	31.7	45595
1/20/2017	41.4	59610
1/21/2017	34.1	49035
1/22/2017	31.6	45501
1/23/2017	32.2	46354
1/24/2017	31.0	44584
1/25/2017	30.3	43675
1/26/2017	29.0	41780
1/27/2017	29.2	42048
1/28/2017	30.1	43328
1/29/2017	29.9	43100
1/30/2017	29.6	42691
1/31/2017	29.6	42598

TOTAL DISCHARGE (gal) = 1409963
AVERAGE DAILY DISCHARGE (gal/day)= 45483

VANDALIA-MIGRATION CONTROL
DAILY DISCHARGE REPORT-February 2017

DATE	AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND	DAILY DISCHARGE (GPD)
2/1/2017	29.1	41844
2/2/2017	29.5	42489
2/3/2017	29.4	42348
2/4/2017	29.4	42321
2/5/2017	29.4	42358
2/6/2017	29.4	42395
2/7/2017	34.8	50042
2/8/2017	31.8	45838
2/9/2017	30.8	44376
2/10/2017	30.1	43338
2/11/2017	30.4	43712
2/12/2017	30.7	44155
2/13/2017	29.4	42325
2/14/2017	29.3	42229
2/15/2017	29.2	42022
2/16/2017	29.0	41730
2/17/2017	28.9	41659
2/18/2017	28.9	41678
2/19/2017	28.8	41539
2/20/2017	28.8	41430
2/21/2017	28.8	41433
2/22/2017	28.9	41568
2/23/2017	28.6	41128
2/24/2017	29.3	42174
2/25/2017	28.8	41426
2/26/2017	28.4	40865
2/27/2017	28.4	40849
2/28/2017	29.6	42644

TOTAL DISCHARGE (gal) = 1191913
AVERAGE DAILY DISCHARGE (gal/day)= 42568

VANDALIA-MIGRATION CONTROL
DAILY DISCHARGE REPORT-March 2017

DATE	AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND	DAILY DISCHARGE (GPD)
3/1/2017	12.5	17949
3/2/2017	15.0	21589
3/3/2017	25.1	36139
3/4/2017	27.1	39034
3/5/2017	26.5	38141
3/6/2017	28.4	40902
3/7/2017	28.5	41000
3/8/2017	27.3	39276
3/9/2017	27.2	39112
3/10/2017	26.6	38364
3/11/2017	25.2	36330
3/12/2017	24.8	35748
3/13/2017	17.7	25502
3/14/2017	0.0	0
3/15/2017	0.0	0
3/16/2017	0.0	0
3/17/2017	2.8	4041
3/18/2017	0.0	0
3/19/2017	0.0	0
3/20/2017	14.7	21158
3/21/2017	40.1	57687
3/22/2017	33.8	48678
3/23/2017	29.2	42112
3/24/2017	20.0	28805
3/25/2017	0.0	0
3/26/2017	0.0	0
3/27/2017	0.0	0
3/28/2017	14.1	20297
3/29/2017	29.1	41872
3/30/2017	30.2	43494
3/31/2017	36.1	52050

TOTAL DISCHARGE (gal) = 809281
AVERAGE DAILY DISCHARGE (gal/day)= 26106

APPENDIX D

Groundwater Migration Control System Activity Log

Vandalia Treatment System
Activity Log

Date	Time on site	Time left site	H&A personnel	Activities while on-site
8/30/16	1400	15:30	EC/MR	TROUBLESHOOT SUMP PIT Aukon & PLC
9.1.16	12:30	14:30	MR	Weekly Inspection
9/2/16	11:00	12:00	ELS	Check System / download system data
9/4/16	16:00	17:00	ELS	CHECK SYSTEM OPERATIONS
9.6.16	11:00	16:00	MR	Weekly Insp, collect samples, seed & grade 301-D
9.7.16	14:30	16:35	MR	Check on 438D & Reconnect phone & Fax Lines
9/14/16	11:00	12:00	ELS	Weekly Inspection; Data Download
9-17-16	14:45	15:55	TMV	Restart system
9-18-16	0800	1030	ELS	Restart system
9-23-16	0900	1200	ELS	Shutdown response; Eyewash Change; Weekly Inspection
9-30-16	0930	1800	WJR	Replaced BR recovery well pump; Restarted system; Weekly inspection
10-6-16	11:00	12:10	WJR	Weekly inspection
10-11-16	0830	12:00	ELS	Monthly Sampling; Weekly Inspection
10-14-16	12-00	13:00	ELS	Restart System
10-14-16	1400	1500	ELS	Download System Data
10-20-16	0700	12:30	WJR	Met with electrician to diagnose BR pump; Weekly inspection
10-25-16	0700	14:00	WJR	Weekly inspection; BR pump diagnosis with electrician
11-3-16	0700	18:20	WJR	Replaced BR recovery well pump; Restarted system
11-9-16	0800	1100	ELS	Sample MC's outfall; Weekly Inspection; Data download; Pick up pump; Maintenance
11-17-16	0830	15:00	WJR	Installed new phone line; Weekly inspection
11-22-16	1530	1630	ELS	Weekly Inspection
12-2-16	14:00	16:00	WJR	Weekly inspection
12/9/16	14:00	16:00	TMV/ELS	Weekly Inspection Move drums trash
12/14/16	16:15	17:00	WJR	Weekly inspection

Vandalia Treatment System
Activity Log

Date	Time on site	Time left site	H&A personnel	Activities while on-site
12/15/16	13:45	15:15	TMV	Sample MC
12/24/16	09:30	17:00	TMV/WTR	Red rock WL Weekly Inspection
12/29/16	10:00	1300	ELS	Weekly Inspection; SS Flow Regulation/Adjustment; DNAPL Checks

Vandalia Treatment System
Activity Log

Date	Time on site	Time left site	H&A personnel	Activities while on-site
1/6/17	1130	1330	ELS	Weekly Inspection
1/9/17	13:30	15:15	TMV	Sample MC.
1/11/17	13:00	14:00	WJR	Weekly inspection
1/17/17	16:10	17:10	WJR	Weekly inspection
1/25/17	14:00	14:40	WJR	Checked phone line
1/27/17	8:45	14:00	WJR	AT&T phone line repair; Weekly inspection; Changed Maxisperse drum
1/30/17	10:40	14:10	WJR	Weekly inspection
2/1/17	13:00	16:05	WJR	Tested building sump alarm
2/13/17	14:00	15:30	TMV	Sample MC
2/10/17	14:20	16:10	WJR	Weekly inspection
2/14/17	15:30	16:15	WJR	Weekly inspection
2/24/17	09:30	16:00	WJR	Weekly inspection
3/2/17	08:50	12:10	WJR	Alarm response
3/3/17	14:20	16:00	WJR	Weekly inspection
3/8/17	15:10	16:00	WJR	Weekly inspection
3/13/17	14:10	18:30	WJR	Weekly inspection; Shut down system in preparation for stripping tower cleaning
3/14/17	8:00	18:00	JB/WJR	Acid wash
3/15/17	7:30	15:30	JB/WJR	Stripping tower tray cleaning
3/16/17	7:30	19:30	JB/WJR	Stripping tower tray cleaning
3/17/17	7:30	17:45	JB/WJR	Re-started system
3/20/17	13:40	18:05	WJR	Re-started system
3/22/17	14:00	16:00	WJR	Sample MC.
3/23/17	14:20	15:15	WJR	Weekly inspection
3/24/17	15:00	16:00	ELS/WJR	System Shutdown Air stripper tower

Vandalia Treatment System
Activity Log

Date	Time on site	Time left site	H&A personnel	Activities while on-site
3/27/17	11:30	12:15	WJB/TMV	Repaired leak in stripping tower
3/28/17	13:15	17:45	WJB	Re-started system
3/29/17	13:10	14:00	WJB	Weekly inspection

APPENDIX E

Groundwater Migration Control System Inspection Checklists

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 10/6/16
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 10/6/16
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM					Y	N	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	x				Y	N	
LOG SYSTEM OPERATING PARAMETERS	x				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	x				Y	N	
TEST LEVEL CONTROLS ETC	x				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	x				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	x				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	x				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				x	N	—	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	x				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	x				Y	N	
VERIFY PUMP OPERATION	x				Y	N	
WELL LEVELS - MANUALLY CHECK VWATER LEVEL VS. PLC DATA		x			N	—	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		x			N	—	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				x	N	—	
CHECK BAG FILTER PRESSURES	x				Y	N	
CHECK CARBON FILTER PRESSURES	x				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	x				Y	N	
AMP TRANSFER PUMP MOTORS				x	N	—	
TRANSFER PUMPS - PERFORM P.M. SERVICE				x	N	—	
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				x	N	—	
CHECK & CALIBRATE INSTRUMENTATION				x	N	—	
MANUALLY OPERATE & CHECK VALVES				x	N	—	
MANUALLY TEST SAFETY INTERLOCKS			x		N	—	

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	11:45	37.21	974.47 ~~970.44~~	937.26
MW-414D	11:25	34.28	971.91	937.63
MW-413D	11:40	32.60	970.13	937.53
MW-416D	11:35	28.29	965.84	937.55

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 10-11-16
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 10-11-16
INSPECTION BY: ELC

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK VWATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

† Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	1058	38.20	974.47	936.27
MW-414D	1053	35.24	971.91	936.67
MW-413D	1050	33.55	970.13	936.58
MW-416D	1046	29.23	965.84	936.61

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 10/20/16
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	Y	Worked on BR pump with electrician
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		–	–	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 10/20/16
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	x				Y	Y	System down; BR pump failure
LOG SYSTEM OPERATING PARAMETERS	x				Y	N	worked on BR pump w/electrician
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	x				Y	N	
TEST LEVEL CONTROLS ETC	x				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	x				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	x				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	x				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				x	N	—	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	x				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	x				Y	N	
VERIFY PUMP OPERATION	x				Y	Y	BR pump down
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		x			N	—	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		x			N	—	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				x	N	—	
CHECK BAG FILTER PRESSURES	x				Y	N	
CHECK CARBON FILTER PRESSURES	x				Y	N	System down
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	x				Y	N	" "
AMP TRANSFER PUMP MOTORS				x	N	—	
TRANSFER PUMPS - PERFORM P.M. SERVICE				x	N	—	
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				x	N	—	
CHECK & CALIBRATE INSTRUMENTATION				x	N	—	
MANUALLY OPERATE & CHECK VALVES				x	N	—	
MANUALLY TEST SAFETY INTERLOCKS			x		N	—	

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	12:10	33.22	~~970.44~~ 974.47	941.25
MW-414D	11:45	30.47	971.91	941.44
MW-413D	12:00	28.78	970.13	941.35
MW-416D	11:55	24.61	965.84	941.23

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 10/25/16
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 10/25/16
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	Y	System down, BR pump
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	—	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	Y	BR pump down
WELL LEVELS - MANUALLY CHECK VWATER LEVEL VS. PLC DATA		X			N	—	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	—	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	—	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	—	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	—	
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X	N	—	
CHECK & CALIBRATE INSTRUMENTATION				X	N	—	
MANUALLY OPERATE & CHECK VALVES				X	N	—	
MANUALLY TEST SAFETY INTERLOCKS			X		N	—	

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D			970.44	
MW-414D			971.91	
MW-413D			970.13	
MW-416D			965.84	

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 11/3/16
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 11/3/16
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	x				Y	N	
LOG SYSTEM OPERATING PARAMETERS	x				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	x				Y	N	
TEST LEVEL CONTROLS ETC	x				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	x				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	x				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	x				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				x	N	—	Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	x				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	x				Y	N	
VERIFY PUMP OPERATION	x				Y	N	BR pump replaced & system restarted
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		x			N	—	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		x			N	—	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				x	N	—	
CHECK BAG FILTER PRESSURES	x				Y	N	
CHECK CARBON FILTER PRESSURES	x				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	x				Y	N	
AMP TRANSFER PUMP MOTORS				x	N	—	
TRANSFER PUMPS - PERFORM P.M. SERVICE				x	N	—	
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				x	N	—	
CHECK & CALIBRATE INSTRUMENTATION				x	N	—	
MANUALLY OPERATE & CHECK VALVES				x	N	—	
MANUALLY TEST SAFETY INTERLOCKS			x		N	—	

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	16:50	35.45	974.47 ~~975.44~~	939.02
MW-414D	16:10	32.46	971.91	939.45
MW-413D	16:40	30.86	970.13	939.27
MW-416D	16:35	26.53	965.84	939.31

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 11-9-2016
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	Y	
EYEWASH STATION	X		Y	Y	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	Y	
EMERGENCY LIGHTING	X		Y	Y	
SITE ISSUES	X		Y	Y	
SITE SECURITY					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 11-9-2016
INSPECTION BY: ELS

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	x				Y	N	
LOG SYSTEM OPERATING PARAMETERS	x				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	x				Y	N	
TEST LEVEL CONTROLS ETC	x				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	x				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	x				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	x				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				x			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	x				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	x				Y	N	
VERIFY PUMP OPERATION	x				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		x					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		x					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				x			
CHECK BAG FILTER PRESSURES	x				Y	N	
CHECK CARBON FILTER PRESSURES	x				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	x				Y	N	
AMP TRANSFER PUMP MOTORS				x			
TRANSFER PUMPS - PERFORM P.M. SERVICE				x			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				x			
CHECK & CALIBRATE INSTRUMENTATION				x			
MANUALLY OPERATE & CHECK VALVES				x			
MANUALLY TEST SAFETY INTERLOCKS			x				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	0850	38.48	974.47 ~~970.99~~	935.99
MW-414D	0844	35.59	971.91	936.32
MW-413D	0841	33.89	970.13	936.24
MW-416D	0838	29.59	965.84	936.25

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: WJR
INSPECTION BY: 11/17/16

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: WJR
INSPECTION BY: 11/17/16

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM					Y	N	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	x				Y	N	
LOG SYSTEM OPERATING PARAMETERS	x				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	x				Y	N	
TEST LEVEL CONTROLS ETC	x				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	x				Y	N	Installed new phone line
INSPECT CONTAINMENT SUMP/FLOOR SEAL	x				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	x				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				x			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	x				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	x				Y	N	
VERIFY PUMP OPERATION	x				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		x					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		x					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				x			
CHECK BAG FILTER PRESSURES	x				Y	N	
CHECK CARBON FILTER PRESSURES	x				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	x				Y	N	
AMP TRANSFER PUMP MOTORS				x			
TRANSFER PUMPS - PERFORM P.M. SERVICE				x			
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				x			
CHECK & CALIBRATE INSTRUMENTATION				x			
MANUALLY OPERATE & CHECK VALVES				x			
MANUALLY TEST SAFETY INTERLOCKS			x				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	12:25	39.24	~~970.44~~ 971.47	935.23
MW-414D	12:05	36.34	971.91	935.57
MW-413D	12:15	34.64	970.13	935.49
MW-416D	12:10	30.36	966.84	935.48

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 11-22-16
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 11-22-16
INSPECTION BY: ELS

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X		[illegible]	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	0854	40.00	974.47 (970.97)	934.47
MW-414D	0852	37.10	971.91	934.81
MW-413D	0849	35.40	970.13	934.73
MW-416D	0834	31.10	965.84	934.74

VANDALIA-MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12/2/16
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12/2/16
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK VWATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X		Y	N	Tested sump high level switch

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	14:30	40.23	~~974.47~~ 970.44	934.24
MW-414D	14:10	37.31	971.91	934.60
MW-413D	14:25	35.62	970.13	934.51
MW-416D	14:20	31.34	965.84	934.50

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12/9/16
INSPECTION BY: TMV

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
WASTE					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12/19/16
INSPECTION BY: TMV

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WWATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				N/A	N/A	Bags off line
CHECK CARBON FILTER PRESSURES	X				N/A	N/A	Carbon off line
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	13:16	40.00	974.47	934.47
MW-414D	13:05	37.08	971.91	934.83
MW-413D	13:02	35.39	970.13	934.74
MW-416D	13:00	31.10	965.84	934.74

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12/14/16
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12/14/16
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK VWATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				N	—	Bags off line
CHECK CARBON FILTER PRESSURES	X				N	—	Carbon off line.
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	16:45	39.71	974.47	934.76
MW-414D	16:25	36.80	971.91	935.11
MW-413D	16:40	35.10	970.13	935.03
MW-415D	16:35	30.82	965.84	935.02

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12/20/14
INSPECTION BY: TMV

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		Y	N	off line
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12/20/16
INSPECTION BY: JMU

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X						
VERIFY PUMP OPERATION	X						
WELL LEVELS - MANUALLY CHECK WWATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X		N	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	11:05	38.20	974.47	936.27
MW-414D	11:01	35.27	971.91	936.64
MW-413D	10:57	33.56	970.13	936.57
MW-416D	10:43	29.29	965.84	936.55

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12-29-16
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		NA	NA	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 12-29-16
INSPECTION BY: ELS

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	Y	N	Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WWATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	Y	N	
CHECK BAG FILTER PRESSURES	X				NA	NA	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	Y	N	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	Y	N	
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	Y	N	
CHECK & CALIBRATE INSTRUMENTATION				X	Y	N	
MANUALLY OPERATE & CHECK VALVES				X	Y	N	
MANUALLY TEST SAFETY INTERLOCKS			X		Y	N	

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	1100	36.71	974.47	937.76
MW-414D	1054	33.81	971.91	938.10
MW-413D	1051	32.11	970.13	938.02
MW-416D	1048	27.83	965.84	938.01

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/6/17
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/6/17
INSPECTION BY: ELS

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	1247	36.53	974.47	937.94
MW-414D	1242	33.63	971.91	938.28
MW-413D	1238	31.95	970.13	938.18
MW-416D	1232	27.67	965.84	938.17

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/11/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/11/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WWATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	Carbon off-line
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	13:30	36.28	974.47	938.19
MW-414D	13:10	33.40	971.91	938.51
MW-413D	13:25	31.70	970.13	938.43
MW-416D	13:20	27.44	965.84	938.40

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/17/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/17/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	16:55	34.85	974.47	939.62
MW-414D	16:25	31.95	971.91	939.96
MW-413D	16:45	30.26	970.13	939.87
MW-416D	16:35	25.99	965.84	939.85

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/27/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	–	–	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		–	–	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/27/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	Y	AT&T repaired phone line.
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	13:30	34.16	974.47	940.31
MW-414D	13:15	31.26	971.91	940.65
MW-413D	13:25	29.56	970.13	940.57
MW-416D	13:20	25.30	965.84	940.54

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/30/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	–	–	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		–	–	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 1/30/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X		Y	N	Tested sump high level switch

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	11:41	34.54	974.47	939.93
MW-414D	11:37	31.66	971.91	940.25
MW-413D	11:30	29.96	970.13	940.17
MW-416D	11:10	25.67	965.84	940.17

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 2/10/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 2/10/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK VWATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	15:20	35.41	974.47	939.06
MW-414D	15:00	32.51	971.91	939.40
MW-413D	15:15	30.82	970.13	939.31
MW-416D	15:05	26.57	965.84	939.27

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 2/14/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 2/14/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	16:00	35.60	974.47	938.87
MW-414D	15:40	32.70	971.91	939.21
MW-413D	15:50	31.01	970.13	939.12
MW-416D	15:45	26.75	965.84	939.09

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 2/24/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 2/24/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	—	—	Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				N/A	N/A	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	10:07	36.12	974.47	938.35
MW-414D	10:03	33.25	971.91	938.66
MW-413D	9:55	31.53	970.13	938.60
MW-416D	9:41	27.26	965.84	938.58

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/3/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/3/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT\VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	–	–	Test Trip Set Point and Clean Screens and Louvers
INSPECT\VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK VWATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				N/A	N/A	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	15:00	34.55	974.47	939.92
MW-414D	14:35	31.67	971.91	940.24
MW-413D	14:55	29.98	970.13	940.15
MW-416D	14:45	25.74	965.84	940.10

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/8/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	–	–	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		–	–	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/8/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	—	—	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WWATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	15:35	33.74	974.47	940.73
MW-414D	15:20	30.86	971.91	941.05
MW-413D	15:30	29.18	970.13	940.95
MW-416D	15:25	24.92	965.84	940.92

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/13/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/13/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	—	—	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X	Y	N	
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	15:57	33.75	974.47	940.72
MW-414D	15:25	30.88	971.91	941.03
MW-413D	15:50	29.19	970.13	940.94
MW-415D	15:33	24.93	965.84	940.91

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/23/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	–	–	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		–	–	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/22/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	—	—	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	15:00	30.87	974.47	943.60
MW-414D	14:45	27.98	971.91	943.93
MW-413D	14:55	26.28	970.13	943.85
MW-416D	14:50	21.97	965.84	943.87

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/29/17
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY WEEK	EVERY MONTH	TESTED (YES or NO)	MEASURES REQ'D (YES or NO)	COMMENTS
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	—	—	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS MAINTENANCE PLAN
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 3/29/17
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	Y	Y	5 heating unit thermostat not working Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			—	—	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				NA	NA	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

[1] Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	9:53	30.67	974.47	943.80
MW-414D	9:49	27.80	971.91	944.11
MW-413D	9:44	26.10	970.13	944.03
MW-416D	9:29	21.77	965.84	944.07

APPENDIX F

Bedrock Groundwater Migration Control System Shutdown Reports

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 10-14-16/11/3/16

TIME: 12:00 14:20

BY: ELK/WJR

SYSTEM NAME: GWMC SYSTEM COMPONENT: Process 32

REASON FOR REPORT: Automatic Shutdown due to Process 32

REASON FOR SHUTDOWN: Process 32

ACTION TAKEN: Pumped down sight glass; checked system parameters; restarted system.; Replaced BR pump VFD; Replaced BR pump & motor; Restarted system

SHUTDOWN DATE & TIME: 10/13/2016 23:20

START-UP DATE & TIME: 11/3/16 14:20

COMMENTS/SUGGESTIONS:

[redacted]

REQUIRED REPORT NOTIFICATION PER SECTION 4.0

IMMEDIATE ☐ NON-CRITICAL ☐ ROUTINE ☐

INDIVIDUAL NOTIFIED _____

ACTION/RESPONSE _____

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 12/2/16
TIME: 17:00
BY: WJR

SYSTEM NAME: GWMC SYSTEM COMPONENT: SMPLSH

REASON FOR REPORT: Manual shutdown for alarm testing

REASON FOR SHUTDOWN: Test building sump overflow shutoff switch and system alarm

ACTION TAKEN: Restarted system

SHUTDOWN DATE & TIME: 12/2/16 16:25 16:45

START-UP DATE & TIME: 12/2/16 16:30 17:00

COMMENTS/SUGGESTIONS:

REQUIRED REPORT NOTIFICATION PER SECTION 4.0

IMMEDIATE [ ] NON-CRITICAL [ ] ROUTINE [ ]

INDIVIDUAL NOTIFIED

ACTION/RESPONSE

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 2/1/17
TIME: 14:00
BY: WJR

SYSTEM NAME: GWMC SYSTEM COMPONENT: SMPLSH

REASON FOR REPORT: Manual shutdown for alarm testing

REASON FOR SHUTDOWN: Test building sump overflow shutoff switch and system alarm

ACTION TAKEN: Restarted system

SHUTDOWN DATE & TIME: 2/1/17 14:33

START-UP DATE & TIME: 2/1/17 15:05

COMMENTS/SUGGESTIONS:

REQUIRED REPORT NOTIFICATION PER SECTION 4.0

IMMEDIATE ☐ NON-CRITICAL ☐ ROUTINE ☐

INDIVIDUAL NOTIFIED

ACTION/RESPONSE

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 3/2/17
TIME: 08:50
BY: WJR

SYSTEM NAME: GWMC SYSTEM COMPONENT: T1 High Level

REASON FOR REPORT: Automatic shutdown of system

REASON FOR SHUTDOWN: High level in equalization tank

ACTION TAKEN: Pump down equalization tank to 4.75'; Re-started system

SHUTDOWN DATE & TIME: 3/1/17 07:43

START-UP DATE & TIME: 3/2/17 10:20

COMMENTS/SUGGESTIONS:

Restricted flow due to solids accumulation in bases; Acid wash needed

REQUIRED REPORT NOTIFICATION PER SECTION 4.0

IMMEDIATE ☐ NON-CRITICAL ☐ ROUTINE ☐

INDIVIDUAL NOTIFIED

ACTION/RESPONSE

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 3/13/17 - 3/17/17
TIME: 14:10 15:35
BY: WJR

SYSTEM NAME: GWMC SYSTEM COMPONENT: System

REASON FOR REPORT: Manual shutdown

REASON FOR SHUTDOWN: Acid wash & stripping tower tray cleaning

ACTION TAKEN: System acid wash; Tray cleaning (with disassembly and re-assembly of stripping tower)

SHUTDOWN DATE & TIME: 3/13/17 14:20

START-UP DATE & TIME: 3/17/17 15:35

COMMENTS/SUGGESTIONS:

REQUIRED REPORT NOTIFICATION PER SECTION 4.0

IMMEDIATE ☐ NON-CRITICAL ☐ ROUTINE ☐

INDIVIDUAL NOTIFIED

ACTION/RESPONSE

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 3/17/17 - 3/20/17
TIME: 17:20 18:05
BY: WJR

SYSTEM NAME: GWMC SYSTEM COMPONENT: High P - PT3

REASON FOR REPORT: Automatic shutdown

REASON FOR SHUTDOWN: High pressure at PT3 - high flow & high P after acid wash

ACTION TAKEN: Re-started system ; Throttled down flow from GAC pump with GAC pump discharge valve

SHUTDOWN DATE & TIME: 3/17/17 17:21

START-UP DATE & TIME: 3/20/17 14:00

COMMENTS/SUGGESTIONS:

REQUIRED REPORT NOTIFICATION PER SECTION 4.0

IMMEDIATE [ ] NON-CRITICAL [ ] ROUTINE [ ]

INDIVIDUAL NOTIFIED

ACTION/RESPONSE

VANDALIA - MIGRATION CONTROL SYSTEM
OPERATIONS AND MAINTENANCE PLAN
FIGURE 1 - SITE VISIT REPORT FORM

DATE:	3/27/17 - 3/28/17
TIME:	15:55 14:00
BY:	ELS

SYSTEM NAME: GWMC SYSTEM COMPONENT: Air Stripper

REASON FOR REPORT: Air Stripper tower leaking Manual shutdown

REASON FOR SHUTDOWN: leak on air stripper tower (SE corner, top of Tray 1)

ACTION TAKEN: shut down system, allow area to dry, repaired leak with RTV sealer, re-started system

SHUTDOWN DATE & TIME: 3/24/17 @ 15:55

START-UP DATE & TIME: 3/28/17 @ 13:35

COMMENTS/SUGGESTIONS:

REQUIRED REPORT NOTIFICATION PER SECTION 4.0

IMMEDIATE ☐ NON-CRITICAL ☐ ROUTINE ☐

INDIVIDUAL NOTIFIED _____

ACTION/RESPONSE _____

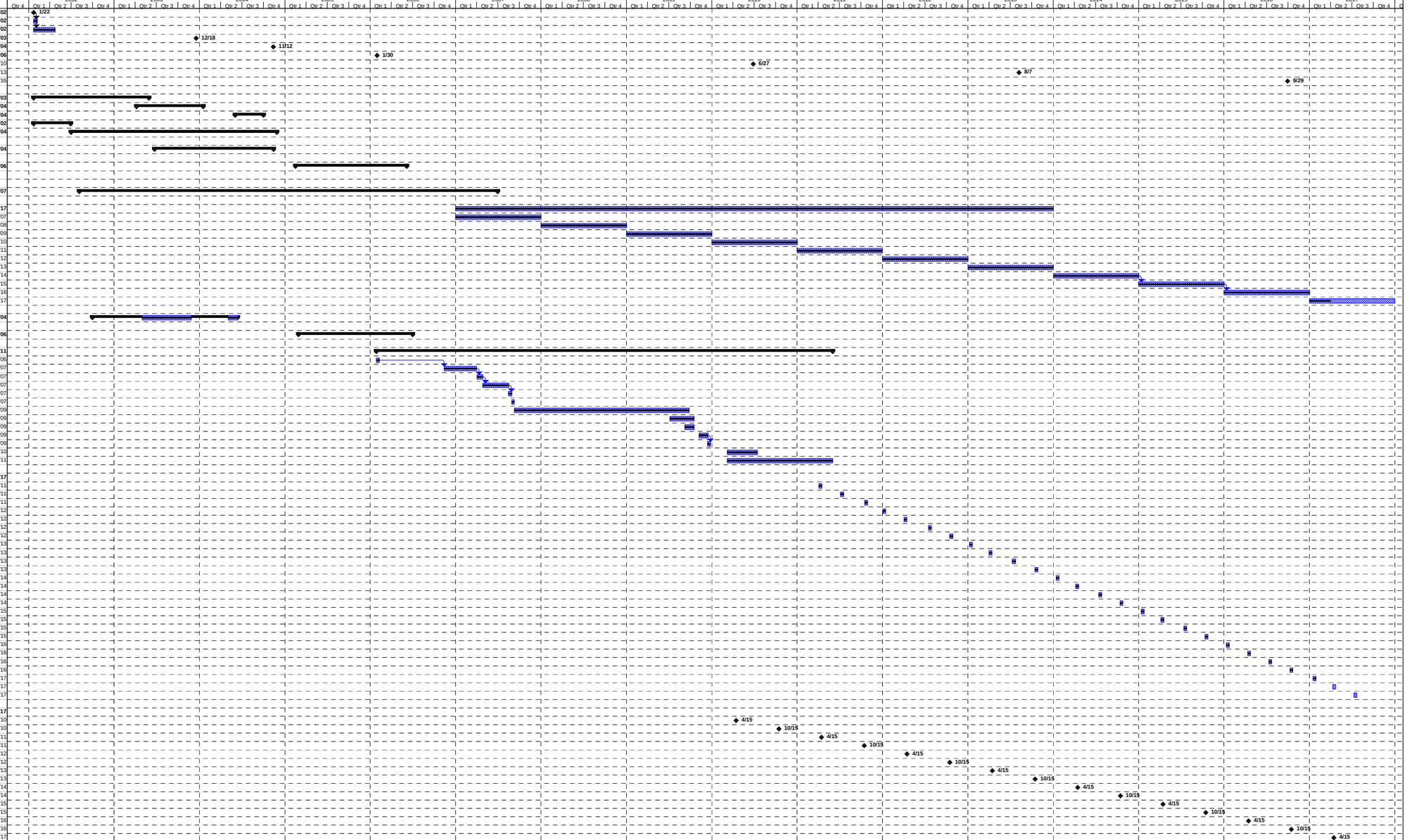
APPENDIX G

Project Schedule

SCHEDULE: MAHLE BEHR DAYTON LLC, VANDALIA,OHIO CORRECTIVE ACTION

Revised Mon 4/3/17

ID	Task Name	% Complete	Duration	Start	Finish
1	**Streamlined Order Executed**	100%	**0 days**	**Tue 1/22/02**	**Tue 1/22/02**
2	**Project Manager Designation**	100%	**11 days**	**Tue 1/22/02**	**Tue 2/5/02**
3	**Interim Measure & Implementation Report**	100%	**65 days**	**Tue 1/22/02**	**Mon 4/22/02**
4	**EI Report - Human Exposures: AOC Deadline 12/31/03**	100%	**1 day**	**Thu 12/18/03**	**Thu 12/18/03**
5	**EI Report - GW Stabilization: AOC Deadline 12/31/04**	100%	**1 day**	**Fri 11/12/04**	**Fri 11/12/04**
6	**Final Corrective Measures Proposal: Extension Granted to 1/30/06**	100%	**1 day**	**Mon 1/30/06**	**Mon 1/30/06**
7	**Three Year Assessment Report 1**	100%	0 days	Sun 6/27/10	Sun 6/27/10
8	**Three Year Assessment Report 2**	100%	0 days	Wed 8/7/13	Wed 8/7/13
9	**Three Year Assessment Report 3**	100%	0 days	Thu 9/29/16	Thu 9/29/16
10					
11	**Offsite Groundwater Investigation**	**100%**	**353 days**	**Tue 1/22/02**	**Thu 5/29/03**
26	**Overburden Groundwater Migration Control Interim Measure**	**100%**	**206 days**	**Mon 4/7/03**	**Fri 1/16/04**
33	**GW Stabilization EI Monitoring (2 mos)**	**100%**	**87 days**	**Wed 6/2/04**	**Thu 9/30/04**
38	**Onsite Investigation Work Plan**	**100%**	**114 days**	**Tue 1/22/02**	**Fri 6/28/02**
48	**Onsite Work Plan Implementation**	**100%**	**631 days**	**Mon 7/1/02**	**Fri 11/26/04**
55					
56	**Environmental Indicators Reports**	**100%**	**366 days**	**Mon 6/23/03**	**Fri 11/12/04**
72					
73	**Investigation Report**	**100%**	**340 days**	**Tue 2/15/05**	**Mon 6/5/06**
80					
81					
82	**Interim Measures**	**100%**	**1284 days**	**Mon 8/5/02**	**Fri 6/29/07**
83					
84	**GW Migration Control O&M**	**93%**	**2877 days**	**Mon 1/1/07**	**Sun 12/31/17**
85	GW Migration Control O&M 5	100%	264 days	Mon 1/1/07	Mon 12/31/07
86	GW Migration Control O&M 6	100%	262 days	Tue 1/1/08	Wed 12/31/08
87	GW Migration Control O&M 7	100%	261 days	Thu 1/1/09	Thu 12/31/09
88	GW Migration Control O&M 8	100%	261 days	Fri 1/1/10	Fri 12/31/10
89	GW Migration Control O&M 9	100%	261 days	Sat 1/1/11	Fri 12/30/11
90	GW Migration Control O&M 10	100%	262 days	Sun 1/1/12	Mon 12/31/12
91	GW Migration Control O&M 11	100%	261 days	Tue 1/1/13	Tue 12/31/13
92	GW Migration Control O&M 12	100%	261 days	Wed 1/1/14	Wed 12/31/14
93	GW Migration Control O&M 13	100%	261 days	Thu 1/1/15	Thu 12/31/15
94	GW Migration Control O&M 14	100%	262 days	Fri 1/1/16	Sat 12/31/16
95	GW Migration Control O&M 15	25%	258 days	Sun 1/1/17	Sun 12/31/17
96					
97	**DNAPL Recovery Design Build**	**100%**	**446 days**	**Mon 9/30/02**	**Fri 6/11/04**
101					
102	**Corrective Measure Proposal**	**100%**	**350 days**	**Mon 2/28/05**	**Fri 6/30/06**
109					
110	**Second Sand Recovery Design Build**	**100%**	**1400 days**	**Fri 1/27/06**	**Wed 6/1/11**
111	Geoprobe and Recovery Well Install	100%	8 days	Fri 1/27/06	Tue 2/7/06
112	Pump Tests	100%	100 days	Mon 11/13/06	Fri 3/30/07
113	Prepare Engineering Assessment	100%	20 days	Mon 4/2/07	Thu 4/26/07
114	Preliminary Design and System Siting	100%	80 days	Fri 4/27/07	Wed 8/15/07
115	Interim System Design	100%	2 wks	Wed 8/15/07	Tue 8/28/07
116	Interim System Install/Start-up	100%	8 days	Wed 8/29/07	Fri 9/7/07
117	Permanent System Final Design	100%	535 days	Mon 9/10/07	Fri 9/25/09
118	Procurement (RFQs, Bid Review, Componenet Purchases)	100%	75 days	Mon 7/6/09	Fri 10/16/09
119	Permitting (NPDES)	100%	30 days	Mon 9/7/09	Fri 10/16/09
120	Build System	100%	26 days	Sat 11/7/09	Mon 12/14/09
121	System Start-up	100%	10 days	Mon 12/14/09	Fri 12/25/09
122	Construction Completion Report	100%	92 days	Mon 3/8/10	Tue 7/13/10
123	Updated O&M Plan	100%	324 days	Mon 3/8/10	Wed 6/1/11
124					
125	**Quarterly GW Sampling**	**92%**	**1648 days**	**Mon 4/4/11**	**Fri 7/21/17**
126	Quarterly GW Sampling 38	100%	2 wks	Mon 4/4/11	Fri 4/15/11
127	Quarterly GW Sampling 39	100%	2 wks	Tue 7/5/11	Mon 7/18/11
128	Quarterly GW Sampling 40	100%	2 wks	Mon 10/17/11	Fri 10/28/11
129	Quarterly GW Sampling 41	100%	2 wks	Mon 1/2/12	Fri 1/13/12
130	Quarterly GW Sampling 42	100%	2 wks	Mon 4/2/12	Fri 4/13/12
131	Quarterly GW Sampling 43	100%	2 wks	Mon 7/16/12	Fri 7/27/12
132	Quarterly GW Sampling 44	100%	2 wks	Mon 10/15/12	Fri 10/26/12
133	Quarterly GW Sampling 45	100%	2 wks	Mon 1/7/13	Fri 1/18/13
134	Quarterly GW Sampling 46	100%	2 wks	Mon 4/1/13	Fri 4/12/13
135	Quarterly GW Sampling 47	100%	2 wks	Tue 7/9/13	Mon 7/22/13
136	Quarterly GW Sampling 48	100%	2 wks	Mon 10/14/13	Fri 10/25/13
137	Quarterly GW Sampling 49	100%	2 wks	Mon 1/13/14	Fri 1/24/14
138	Quarterly GW Sampling 50	100%	2 wks	Mon 4/7/14	Fri 4/18/14
139	Quarterly GW Sampling 51	100%	2 wks	Mon 7/14/14	Fri 7/25/14
140	Quarterly GW Sampling 52	100%	2 wks	Mon 10/13/14	Fri 10/24/14
141	Quarterly GW Sampling 53	100%	2 wks	Mon 1/12/15	Fri 1/23/15
142	Quarterly GW Sampling 54	100%	2 wks	Mon 4/6/15	Fri 4/17/15
143	Quarterly GW Sampling 55	100%	2 wks	Mon 7/13/15	Fri 7/24/15
144	Quarterly GW Sampling 56	100%	2 wks	Mon 10/12/15	Fri 10/23/15
145	Quarterly GW Sampling 57	100%	2 wks	Mon 1/11/16	Fri 1/22/16
146	Quarterly GW Sampling 58	100%	2 wks	Mon 4/11/16	Fri 4/22/16
147	Quarterly GW Sampling 59	100%	2 wks	Mon 7/11/16	Fri 7/22/16
148	Quarterly GW Sampling 60	100%	2 wks	Mon 10/10/16	Thu 10/20/16
149	Quarterly GW Sampling 61	100%	2 wks	Mon 1/16/17	Fri 1/27/17
150	Quarterly GW Sampling 62	0%	2 wks	Mon 4/10/17	Fri 4/21/17
151	Quarterly GW Sampling 63	0%	2 wks	Mon 7/10/17	Fri 7/21/17
152					
153	**Progress Reports**	**100%**	**1831 days**	**Thu 4/15/10**	**Sat 4/15/17**
154	Progress Report 28	100%	0 days	Thu 4/15/10	Thu 4/15/10
155	Progress Report 29	100%	0 days	Fri 10/15/10	Fri 10/15/10
156	Progress Report 30	100%	0 days	Fri 4/15/11	Fri 4/15/11
157	Progress Report 31	100%	0 days	Sat 10/15/11	Sat 10/15/11
158	Progress Report 31	100%	0 days	Sun 4/15/12	Sun 4/15/12
159	Progress Report 32	100%	0 days	Mon 10/15/12	Mon 10/15/12
160	Progress Report 33	100%	0 days	Mon 4/15/13	Mon 4/15/13
161	Progress Report 34	100%	0 days	Tue 10/15/13	Tue 10/15/13
162	Progress Report 35	100%	0 days	Tue 4/15/14	Tue 4/15/14
163	Progress Report 36	100%	0 days	Wed 10/15/14	Wed 10/15/14
164	Progress Report 37	100%	0 days	Wed 4/15/15	Wed 4/15/15
165	Progress Report 38	100%	0 days	Thu 10/15/15	Thu 10/15/15
166	Progress Report 39	100%	0 days	Fri 4/15/16	Fri 4/15/16
167	Progress Report 40	100%	0 days	Sat 10/15/16	Sat 10/15/16
168	Progress Report 41	100%	0 days	Sat 4/15/17	Sat 4/15/17



Project: MAHLE Behr Dayton LLC, Vandalia, OH

Task | Milestone | Rolled Up Task | Rolled Up Milestone | External Tasks | External Milestone | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | Progress

Split | Summary | Rolled Up Split | Rolled Up Progress | Project Summary | Inactive Task | Inactive Summary | Duration-only | Manual Summary | Finish-only | Deadline

Notes and Abbreviations:
1. Schedule may be revised as necessary to accomodate unexpected field conditions or inclement weather.